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(FILE 'HOME' ENTERED AT 12:45:37 ON 23 JUN 2007)

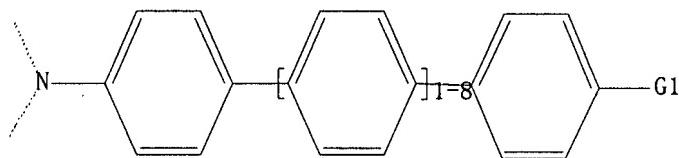
FILE 'REGISTRY' ENTERED AT 12:45:46 ON 23 JUN 2007  
L1                   STRUCTURE UPLOADED

L2                   8 S L1  
L3                   508 S L1 FULL

FILE 'CAPLUS' ENTERED AT 12:47:00 ON 23 JUN 2007

L4                   339 S L3  
L5                   201 S L4 AND PY<2004

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L1                   STR



G1 H, Cb, Hy, X

Structure attributes must be viewed using STN Express query preparation.

L3                   508 SEA FILE=REGISTRY SSS FUL LI  
L4                   339 SEA FILE=CAPLUS ABB=ON PLU=ON L3  
L5                   201 SEA FILE=CAPLUS ABB=ON PLU=ON L4 AND PY<2004

=> d 1-201 bib abs hitstr

L5 ANSWER 1 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2003-985804 CAPLUS  
 DN 140-50039

TI Organic electroluminescent element and its manufacturing method  
 IN Suzuki, Yoshiyuki; Saito, Atsushi; Kita, Hiroshi; Yamada, Taketoshi  
 PA Konica Corporation, Japan  
 SO Eur. Pat. Appl., 50 pp.  
 CODEN: EPXNDW

DT Patent  
 LA English  
 FAN CNT 1

| PATENT NO.         | KIND   | DATE     | APPLICATION NO. | DATE        |
|--------------------|--|----------|-----------------|-------------|
| PI EP 1371709      | A1   | 20031217 | EP 2003-11196   | 20030528 << |
|                    | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,<br>IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK |          |                 |             |
| JP 2004014172      | A  | 20040115 | JP 2002-162753  | 20020604    |
| US 2004005404      | A1   | 20040108 | US 2003-449321  | 20030529    |
| US 6950364         | B2   | 20051101 |                 |             |
| US 200316153       | AI   | 20031201 | US 2005-194881  | 20050801    |
| JP 2002-162753     | A  | 20020604 |                 |             |
| PR1 US 2003-449321 | AI   | 20030529 |                 |             |

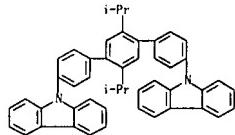
AB Methods of manufacturing organic electroluminescent devices comprising a substrate supporting a light-emitting layer and  $\geq 1$  of a hole-injecting layer, a hole-transport layer, an electron-injecting layer, and an electron-transport layer in which the the light-emitting layer is adjacent to  $\geq 1$  other layer are described which entail providing a first coating solution employing a first organic solvent for one layer of the two adjacent layers and a second coating solution employing a second solvent for the other layer, the first solvent being immiscible with the second solvent; simultaneously coating the first and second coating solns. on the substrate so that the first coating solution is in contact with the second coating solution; and drying the coatings. One solvent may be water while the other is an organic solvent. Alternately, a layer of a solvent which is immiscible with the solvents used for either the first or second layer coatings may be provided between the applied coating layers. The devices, including white and blue light-emitting devices, and illumination sources and displays using them, are also described.

IT 634907-40-7

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PVP (Physical process); PROC (Process); USES (Uses)  
 (organic electroluminescent device production using wet coating methods with immiscible solvents for different layers and the devices)

RN 634907-40-7 CAPLUS

CN 9H-Carbazole, 9,9'-(2',5'-bis(1-methylethyl)[1,1':4',1''-terphenyl]-4,4''-diyl)bis-(9CI) (CA INDEX NAME)



RE. CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD

L5 ANSWER 2 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2003-874573 CAPLUS  
 DN 139-371625

TI Organic electroluminescent device and its production method  
 IN Suzurizato, Yoshiyuki; Yamada, Taketoshi; Kita, Hiroshi  
 PA Konica Minolta Holdings Inc., Japan  
 SO Jpn. Kokai Tokkyo Koho, 32 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese  
 FAN CNT 1

| PATENT NO.         | KIND | DATE     | APPLICATION NO. | DATE        |
|--------------------|------|----------|-----------------|-------------|
| PI JP 2003317946   | A    | 20031107 | JP 2002-120841  | 20020423 << |
| PR1 JP 2002-120841 |      | 20020423 |                 |             |

AB The invention relates to an organic electroluminescent device comprising organic layers sandwiched between an anode and a cathode, wherein, at least, one of the organic layers is formed by a wet process, such as ink-jet printing, spin coating, etc., using the solution containing the organic compound having the glass transition temperature in 80-250 °C and purified by a sublimation method. One of the organic layers prepared by the wet process may be an electroluminescent layer that comprises a host material and a phosphorescent guest material.

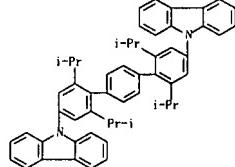
IT 620626-18-8P

RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)

(host in light-emitting layer: organic electroluminescent device)

RN 620626-18-8 CAPLUS

CN 9H-Carbazole, 9,9'-(2,2',6,6''-tetrakis(1-methylethyl)[1,1':4',1''-terphenyl]-4,4''-diyl)bis-(9CI) (CA INDEX NAME)



L5 ANSWER 1 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT (Continued)

DN 139-33017 CAPLUS

TI Novel aromatic compound for organic electroluminescent device  
 IN Ikeda, Hidetsugu; Matsuura, Masahide; Funahashi, Masakazu; Hosokawa, Chisio  
 PA Idemitsu Kosan Co., Ltd., Japan  
 SO PCT Int. Appl., 69 pp.  
 CODEN: PIIXD2

DT Patent

LA Japanese

FAN CNT 1

| PATENT NO.          | KIND   | DATE     | APPLICATION NO.  | DATE        |
|---------------------|--|----------|------------------|-------------|
| PI WO 2003087023    | A1   | 20031023 | WO 2003-JP4905   | 20030417 << |
|                     | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,<br>IE, SI, FI, RO, CY, TR, RG, CZ, EE, HU, SK |          |                  |             |
| JP 2003306454       | A  | 20031028 | JP 2002-114400   | 20020417 << |
| EP 1496041          | A1   | 20050112 | EP 2003-723137   | 20030417    |
|                     | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,<br>IE, SI, FI, RO, CY, TR, RG, CZ, EE, HU, SK |          |                  |             |
| CN 1646456          | A  | 20050727 | CN 2003-808545   | 20030417    |
| CN 1876610          | A  | 20061213 | CN 2006-10092401 | 20030417    |
| CN 1939884          | A  | 20070404 | CN 2006-10159844 | 20030417    |
| US 2005214565       | A1   | 20050929 | US 2005-508602   | 20050316    |
| PR1 JP 2002-114400  |  | 20020417 |                  |             |
| CN 2003-808545      | A3   | 20030417 |                  |             |
| WO 2003-JP4905      | W  | 20030417 |                  |             |
| OS MARPAT 139:33017 | G1   |          |                  |             |

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The invention refers to a novel aromatic compound comprising a anthracene skeleton and an asym. mol. structure A-Ar-B [Ar = (un)substituted anthracenediyl]; B = alkenyl- or arylamine-monosubstituted C2-60 heterocycle or (un)substituted C5-60 aryl: A = I, II, III, IV, V, VI, VII, VIII, IX, X, IX: Ar1-3 = (un)substituted C6-30 aryl: Ar4 = (un)substituted C6-30 arylene; Ar5 = (un)substituted C6-30 trivalent aromatic: R1,2 = H, halo, hydroxyl, (un)substituted amino, nitro cyano (un)substituted C1-30 alkyl, C2-40 alkenyl, C5-40 cycloalkyl, C1-30 alkoxy, C5-40 aromatic hydrocarbon, C2-40 aromatic heterocycle, C7-40 aralkyl, C6-40 aryloxy, C2-30 alkoxy carboxyl: Ar1,2 and R1,2 may each join together to form rings].

IT 614715-06-OP

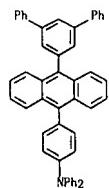
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(novel aromatic compound for organic electroluminescent device)

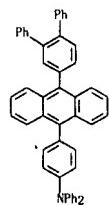
RN 614735-09-0 CAPLUS

CN Benzenamine, N,N-diphenyl-4-(10-[1,1':3',1''-terphenyl]-5'-yl-9-anthracenyl)-(9CI) (CA INDEX NAME)

L5 ANSWER 3 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



IT 614735-07-8  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(novel aromatic compound for organic electroluminescent device)  
RN 614735-07-8 CAPLUS  
CN Benzenamine, N,N-diphenyl-4-[10-(1,1'-2',1''-terphenyl)-4'-yl-9-anthracenyl]- (9CI) (CA INDEX NAME)



RE. CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2003-817148 CAPLUS  
DN 140-7590

TI Relationship between molecular skeleton and stimulated-emission threshold in dilute thin films of linear-chain-structured fluorescent dyes

AU Sakai, Ken-ichi; Tsuzuki, Takeo; Motoyoshi, Jiro; Inoue, Masamitsu;

Itoh, Yoshihiro; Ichikawa, Yusaku; Fujimoto, Tetsuya; Yamamoto, Iwao;

CS Faculty of Textile Science and Technology, Shinshu University, Nagano, 386-8567, Japan

SO Chemistry Letters (2003), 32(10), 968-969

CODEN: CMLETG; ISSN: 0366-7022

PB Chemical Society of Japan

DT Journal

LA English

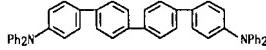
AB We carried out photopumping measurements for the dilute thin films of linear-chain-structured laser dyes where x-units such as benzene, ethylene, and oxazole, are linearly linked via  $\pi$ -bonds. Among them, 4,4'-bis[4-(di-p-tolylamino)styryl]biphenyl recorded the lowest stimulated-emission threshold of 2  $\mu$ J/cm<sup>2</sup>. It was revealed that the threshold was related to whether the number of constituent x-units was even or odd.

IT 145898-89-1  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(relationship between mol. skeleton and stimulated-emission threshold in dilute thin films of linear-chain-structured fluorescent dyes)

RN 145898-89-1 CAPLUS

CN [1,1':4',1'':4'',1'':Quaterphenyl]-4,4''-diamine, N4,N4,N4'',N4''-tetraphenyl- (CA INDEX NAME)



RE. CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 5 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

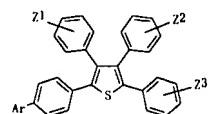
AN 2003-773841 CAPLUS  
DN 139-298983

TI Organic electroluminescent device and novel thiophene derivative  
IN Ishida, Tatsuhiko; Shimamura, Takehiko; Tanabe, Yoshimitsu; Totani, Yoshiyuki; Nakatsuka, Masakatsu

PA Mitsui Chemicals Inc., Japan  
SO Jpn. Kokai Tokkyo Koho, 48 pp.  
CODEN: JKXXAF

DT Patent  
LA Japanese  
FAN, CNT 1

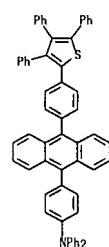
| PATENT NO.           | KIND | DATE     | APPLICATION NO. | DATE        |
|----------------------|------|----------|-----------------|-------------|
| P1 JP 2003282268     | A    | 20031003 | JP 2002-112966  | 20020416 <- |
| PRA1 JP 3853246      | B2   | 20061206 |                 |             |
| PRA1 JP 2002-9104    | A    | 20020117 |                 |             |
| OS MARPAT 139:298983 |      |          |                 | G1          |



AB The invention refers to an organic electroluminescent device comprising a novel thiophene derivative I ( $Ar = (\text{un})\text{substituted anthryl}$ ;  $Z1=H$ , halo, straight chain, branched or cyclic alkyl, alkoxy, ( $\text{un})\text{substituted amino, aryl or aralkyl}$ ) in at least one layer.

IT 608142-38-7P 608142-47-8P  
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

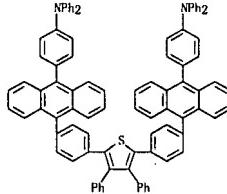
(organic electroluminescent device and novel thiophene derivative)  
RN 608142-38-7 CAPLUS  
CN Benzenamine, N,N-diphenyl-4-[10-[4-(3,4,5-triphenyl-2-thienyl)phenyl]-9-anthracenyl]- (9CI) (CA INDEX NAME)



L5 ANSWER 5 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

AN 608142-47-8 CAPLUS

CN Benzenamine, 4,4'-(3,4-diphenyl-2,5-thiophenediyi)bis(4,1-phenylene-10,9-anthracenediyi)-bis[N,N-diphenyl- (9CI) (CA INDEX NAME)]



L5 ANSWER 6 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2003-759350 CAPLUS  
 DN 140-171902

TI Energy-transfer-type polymeric light-emitting material  
 IN Wang, Lixiang; Min, Chunchun; Tu, Guoli  
 PA Changchun Institute of Applied Chemistry, Chinese Academy of Sciences,  
 Peop. Rep. China  
 SO Faming Zhuang; Shengqiang Gongkai Shuomingshu, 13 pp.  
 CODEN: CNXKEX

DT Patent  
 IA Chinese  
 FAN CNT 1

| PATENT NO.          | KIND | DATE     | APPLICATION NO. | DATE         |
|---------------------|------|----------|-----------------|--------------|
| PI CN 1381543       | A    | 20021127 | CN 2002-116046  | 20020424 <-- |
| PRAI CN 2002-116046 |      | 20020428 |                 |              |

AB Luminescent polymers are synthesized by N-alkylation of 9-alkyl-4-amino-1,9-naphthalimide with dibromoboron in 1,3-dimethyl-3,4,5,6-tetrahydro-2-pyrimidone solvent in the presence of K2CO3. Cul and 18-crown-6 at 140-220° for 24-48 h under bubbling N2; and then Suzuki reaction with dibromo- aromatic monomer (such as 9,9-diocetyl)-2,7-dibromofluorene, 1,4-dibromobenzene, 2,5-dihexyloxy-1,4-dibromobenzene, 9,10-dibromoanthracene, 9-hexyl-2,7-dibromocarbazole, or 4,4'-dibromobiphenyl) and arylene boronate (such as 2,5-dihexyloxy-1,4-benzenediboronic acid or 1,4-benzenediboronic acid bis(trimethylene ester) in THF in the presence of K2CO3 and tetrakis(triphenylphosphine)Pd under refluxing for 3-5 d. The conjugated length and forbidden band of the light-emitting material may be regulated by controlling the content of naphthalimide derivative unit.

IT 654676-41-2P

RL: IMF (Industrial manufacture); PREP (Preparation)  
 (preparation of energy-transfer-type light-emitting polymers)

RN 654676-41-2 CAPLUS

CN Poly{[(2-decyl)-2,3-dihydro-1,3-dioxo-1H-benz[de]isoquinolin-6-yl)amino]1,1'-4',1''-4'',1'''-4'''-1''''-quinquephenyl]-4,4'''-diyl} (9Cl) (CA INDEX NAME)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

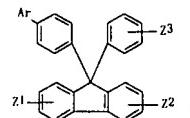
L5 ANSWER 7 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2003-723685 CAPLUS

DN 139-252299  
 TI Diphenylfluorene derivatives and organic electroluminescence devices using them with high luminescence efficiency  
 IN Ishida, Tsutomu; Shimamura, Takehiko; Tanabe, Yoshimitsu; Totani, Yoshiyuki; Nakatsuka, Masakatsu  
 PA Mitsui Chemicals Inc., Japan  
 SO Jpn. Kokai Tokkyo Koho, 40 pp.

CODEN: JKXXAF  
 DT Patent  
 IA Japanese  
 FAN CNT 1

| PATENT NO.         | KIND | DATE     | APPLICATION NO. | DATE         |
|--------------------|------|----------|-----------------|--------------|
| PI JP 2003261472   | A    | 20030916 | JP 2002-62101   | 20020307 <-- |
| PRAI JP 2002-62101 |      | 20020307 |                 |              |

OS MARPAT 139-252299  
 GI



AB The electroluminescence devices contain the diphenylfluorene derivs. 1 (Ar = anthryl; Z= H, halo, alkyl, alkoxy, aryl, aralkyl) between a pair of electrodes. The electroluminescence devices may further contain luminescent organic metal complexes and triarylamines.

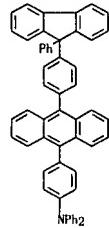
IT 597554-08-OP 597554-12-6P 597554-19-3P

597554-23-9P  
 RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)  
 (anthrylphenylphenylfluorene derivs. for organic EL devices with high luminescence efficiency)

RN 597554-08-0 CAPLUS

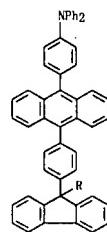
CN Benzenamine, N,N-diphenyl-4-[10-[4-(9-phenyl-9H-fluoren-9-yl)phenyl]-9-anthracenyl]-N,N-diphenyl- (9Cl) (CA INDEX NAME)

L5 ANSWER 7 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 597554-12-6 CAPLUS  
 CN Benzenamine, 4-[10-[4-(9-phenyl-9H-fluoren-9-yl)phenyl]-9-anthracenyl]-N,N-diphenyl- (9Cl) (CA INDEX NAME)

PAGE 1-A

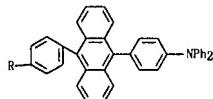


PAGE 1-A

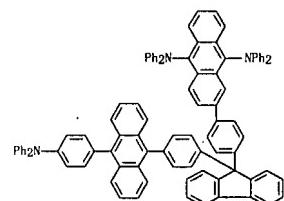
L5 ANSWER 7 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

RN 597554-19-3 CAPLUS  
 CN Benzenamine, 4,4'-(9H-fluoren-9-ylidenebis(4,1-phenylene-10,9-anthracenediyl))bis[N,N-diphenyl- (9Cl) (CA INDEX NAME)

PAGE 2-A



RN 597554-23-9 CAPLUS  
 CN 10-Anthracenediamine, 2-[4-[9-4-(diphenylamino)phenyl]-9H-fluoren-9-yl]phenyl]-N,N,N',N'-tetraphenyl- (9Cl) (CA INDEX NAME)



L5 ANSWER 8 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 2003:673851 CAPLUS

DN 139:204846  
TI Anthracene compounds, their organic EL device materials, and their EL devices having high emission efficiency, long service life, and good heat resistance

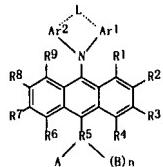
IN Hosokawa, Chishio; Funabashi, Masakazu; Ikeda, Shuji; Yamamoto, Hiroshi  
PA Idemitsu Kosan Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 23 pp.  
CODEN: JKXXAF

DT Patent

LA Japanese

FAN CNT I

| PATENT NO.           | KIND | DATE     | APPLICATION NO. | DATE         |
|----------------------|------|----------|-----------------|--------------|
| PI JP 2003238534     | A    | 20030827 | JP 2002-45705   | 20020222 <-- |
| PRAI JP 2002-45705   |      | 20020222 |                 |              |
| OS MARPAT 139:204846 |      |          |                 |              |
| GI                   |      |          |                 |              |

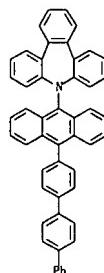


AB The anthracene compds. are represented by a general formula of I [R1-R4, R5-R9 = H, halo, OH, NO<sub>2</sub>, CN, amino, C1-30 alkyl, C4-10 alkenyl, CO<sub>2</sub>H, etc.; R5 = divalent or trivalent C5-40 aromatic, divalent or trivalent C2-40 aromatic heterocyclic; R1-R9 may be bonded to neighboring group and form ring; A, B = C6-40 aryl, aromatic C2-40 heterocyclic; when R5 = C10-40 aromatic or aromatic C5-40 heterocyclic, A may be H; Ar1, Ar2 = C6-40 aryl, aromatic C2-40 heterocyclic, may be bonded to each other via linkage group L; L = (CR<sub>1</sub>OR<sub>1</sub>)<sub>m</sub>, (SIR<sub>1</sub>OR<sub>1</sub>)<sub>n</sub>, NR<sub>12</sub>M, vinylene, C6-40 aryloxy; R10-R12 = H, halo, C1-40 alkyl, C5-40 cyclononyl, C5-40 aromatic hydrocarbyl, aromatic C2-40 heterocyclic, C7-40 aralkyl; m = 1, 2, 3; n = 0, 1]. The organic EL device contains, between anodes and cathodes, ≥1 organic thin-film layers involving a luminescent layer containing L in ≥1 of the layers. Preferably, the organic thin-film layers consist of a luminescent layer, an electron-transferring layer, and a hole-transferring layer and at least the luminescent layer contains L. Preferably, the luminescent layer further contains arylamine compds. which may be selected from those represented by a general formula of Ar<sub>5</sub>(NAr<sub>6</sub>Ar<sub>7</sub>)<sub>p</sub> (Ar<sub>5</sub> = C6-40 aromatic; Ar<sub>6</sub> Ar<sub>7</sub> = H, C6-40 aromatic; p = 1-6 integer) or Ar<sub>8</sub>(NAr<sub>9</sub>)qAr<sub>10</sub>NAr<sub>11</sub>Ar<sub>12</sub>(NAr<sub>13</sub>)<sub>r</sub>Ar<sub>14</sub> (Ar<sub>8</sub>, Ar<sub>14</sub> = C6-40 aromatic; Ar<sub>9</sub>-Ar<sub>13</sub> = H, C6-40 aromatic; q, r, s t = 0, 1). The electron-transferring layer may contain inorg. compds., preferably selected from dielectr., semiconductors, or fine-crystalline or amorphous dielec. thin films. The dielectr. may comprise ≥1 compds. selected from alkali metal chalcogenides, alkaline earth metal chalcogenides, alkali metal halides, and alkaline earth metal halides. The semiconductors

L5 ANSWER 8 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
AN 2003:673851 CAPLUS  
DN 139:204846  
TI Organic EL device comprising materials selected from the group consisting of: ≥1 oxides, nitrides, or oxynitrides of ≥1 elements selected from Ba, Ca, Sr, Yb, Al, Ga, In, Li, Na, Cd, Mg, Si, Ta, Sb, and Zn. The electron-transferring layer may contain reducing dopants, preferably, ≥1 alkali metals selected from Na, K, Rb, and Cs and/or ≥1 alk. earth metals selected from Ca, r, and/or Ba. In another alternative, the org. thin-film layers consist of an electron-transferring layer, and a hole-transferring layer and at least one of these layers contain L.

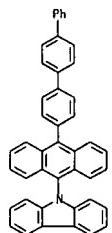
IT 585533-64-8P RL DEV (Device component use); IMF (Industrial manufacturer); PREP (anthracene compds. for organic EL device having high emission efficiency, long service life, and good heat resistance)

RN 585533-58-0 CAPLUS  
CN 9H-Tribenz[b, d, f]azepinc, 9-((10-[1', 1':4', 1''-terphenyl]-4-yl)-9-anthracenyl)-(9Cl) (CA INDEX NAME)



RN 585533-64-8 CAPLUS  
CN 9H-Carbazole, 9-(10-[1', 1':4', 1''-terphenyl]-4-yl)-9-anthracenyl)-(9Cl) (CA INDEX NAME)

L5 ANSWER 8 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L5 ANSWER 9 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:628443 CAPLUS  
DN 139:171119

TI Organic electroluminescent device comprising coupled anthracene fluorene derivative and with amino-substituted hydrocarbon

IN Totani, Yoshiyuki; Ishida, Tsutomu; Shimamura, Takehiko; Tanabe, Yoshimitsu; Nakatsuka, Masakatsu  
PA Mitsui Chemicals Inc., Japan  
SO Jpn. Kokai Tokkyo Koho, 122 pp.  
CODEN: JKXXAF

DT Patent

LA Japanese

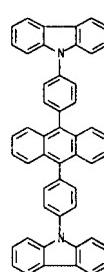
FAN CNT I

| PATENT NO.           | KIND | DATE     | APPLICATION NO. | DATE         |
|----------------------|------|----------|-----------------|--------------|
| PI JP 2003229773     | A    | 20030815 | JP 2002-25736   | 20020201 <-- |
| PRAI JP 2002-25736   |      | 20020201 |                 |              |
| OS MARPAT 139:171119 |      |          |                 |              |

AB The invention refers to an organic electroluminescent device comprising one or two fluorene rings directed bonded to an anthracene and a amino-substituted hydrocarbon.

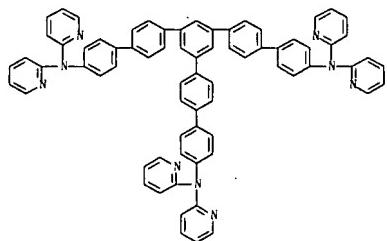
IT 194296-19-0 RL DEV (Device component use); USES (Uses) (organic electroluminescent device comprising coupled anthracene fluorene derivative and with amino-substituted hydrocarbon)

RN 194296-19-0 CAPLUS  
CN 9H-Carbazole, 9,9'- (9, 10-anthracenediylid-4, 1-phenylene)bis- (9Cl) (CA INDEX NAME)





L5 ANSWER 11 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

RE. CNT 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 12 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

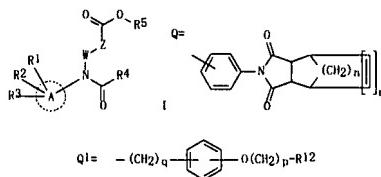
AN 2003-532638 CAPLUS  
DN 139-85362  
TI Preparation of 3-phenylpropanamide derivatives as antagonists of vascular endothelial growth factor (VEGF) receptor  
IN Saito, Shuji; Suga, Yoichiro; Sato, Masakazu; Shibuya, Masanumi  
PA Taisei Pharmaceutical Co., Ltd., Japan  
SO PCT Int. Appl., 43 pp.  
CODEN: PIXXD2

DT Patent

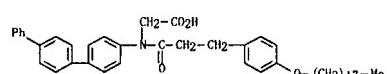
LA Japanese

FAN. CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE

| PT   | WO 2003055847   | A1   | 20030710 | WO 2002-JP13692 | 20021226 -- |
|------|---|--|----------|-----------------|-------------|
|      | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, ES, GE, GG, GH, GR, GT, HK, HR, IL, IN, IS, JP, KR, KG, KP, KZ, LC, LI, LR, LS, LT, LV, MA, MD, MG, MN, MR, MZ, NC, NZ, OM, PH, PL, PT, RO, RU, SA, SD, SL, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, US, UZ, VC, VN, YU, ZA, ZM, ZW | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UC, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, GA, GN, GO, GW, ML, MR, NE, SN, TD, TG |          |                 |             |
|      | CA 2482392  | A1   | 20030710 | CA 2002-2482392 | 20021226 -- |
|      | AU 2002359922   | A1   | 20030715 | AU 2002-359922  | 20021226 -- |
|      | EP 1468691  | A1   | 20041013 | EP 2002-793420  | 20021226    |
|      | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK   |  |          |                 |             |
|      | CN 1610659  | A  | 20050427 | CN 2002-826383  | 20021226    |
|      | NO 2004002664   | A  | 20040927 | NO 2004-2664    | 20040624    |
|      | US 2005222423   | A1   | 20051006 | US 2005-500135  | 20050310    |
| PRAJ | JP 2001-396525  | A  | 20011227 |                 |             |
|      | WO 2002-JP13692   | W  | 20021226 |                 |             |
| OS   | MARPAT 139-85362  |  |          |                 |             |
| GI   |   |  |          |                 |             |



AB Carboxylic acid amide derivs. represented by the formula (I) [wherein ring A = benzene ring, naphthalene ring, heterocyclic ring containing 1-4 heteroatoms selected from N, O, and S; W = C1-5 alkylene; Z = a single bond, phenylene; R1, R2 = H, halo, Cl-5 alkyl, Cl-10 alkoxy; R3 = H, halo, Cl-12 alkyl, Cl-5 alkynyl, trifluoromethyl, acetylenyl, cyano, nitro, -CH2-R6, -Y-R11 [wherein R6 = Cl-5 alkylthio, Q (wherein m = 0, 1; n = an

L5 ANSWER 12 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
integer of 0-3), optionally substituted Ph or monocyclic heterocyclic] containing 1-3 heteroatoms selected from N, O, and S; Y = CO, O, S, SO2; R11 = Cl-10 alkyl, FCH2, CF2H, CF3, Ph, Cl-5 alkylphenyl, Cl-5 alkoxyphenyl, Cl-8 dialkylamino, cyclic amino]; R4 = Q1 [wherein R12 = H, Cl-5 alkoxyl, PhO; q = an integer of 1-5; p = an integer of 10-24]; R5 = H, Cl-5 alkyl] or pharmaceutically acceptable salts thereof are prep'd. These compds. inhibit the binding of ligands to VEGF receptor and thereby inhibit neovascularization by inhibiting the VEGF-dependent proliferation of vascular endothelial cell or inhibit increase in vaso permeability and are useful for the treatment of diseases related to VEGF or neovascularization such diabetic retinopathy, chronic rheumatism, solid tumor, cerebral edema or injury related to ischemic reperfusion injury, psoriasis, atherosclerosis, fiber proliferation of rear cryst. lens angiogenesis glaucoma, ageing yellow spot, thyroid hyperplasia, chronic inflammation, pneumonia, nephrotic syndrome, decrease immune function against tumor, assisted reproduction, edema of peritoneal fluid, or retention of pleural effusion. Thus, a suspension of 2.00 g 3-[4-(1-octadecyloxy)phenyl]propionic acid and 3.26 g SOC12 in 40 mL benzene was refluxed for 1.5 h, evapd. in vacuo to remove the solvent, successively treated with 80 mL CH2Cl2, 0.60 g aniline, and 1.45 g Et3N, and stirred at room temp. for 2 h to give, after workup, 1.0 g N-phenyl-3-[4-(1-octadecyloxy)phenyl]propionamide. The latter intermediate was dissolved in 1.5:1 mixt. of THF/DMF (30 mL), treated with 0.12 g NaI (60%) at room temp., stirred for 30 min, treated dropwise with tert-Bu bromoacetate, and stirred at room temp. for 14 h to give, after workup and recrystn. from MeOH, N-[3-[4-(1-octadecyloxy)phenyl]propionyl]-N-phenylglycine. N-[2-(5-phenyl)-1,3,4-oxadiazol-2-yl]phenyl]-N-[3-[4-(1-octadecyloxy)phenyl]propionyl]glycine at  $\mu$ g/mL inhibited the binding of [<sup>125</sup>I]-VEGF to NMH3T3 cell expressing PI-1 VEGF receptor by 61 and 59%, resp.IT 556818-01-0  
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(preparation of phenylpropanamide derivs. as antagonists of vascular endothelial growth factor (VEGF) receptor and neovascularization inhibitors for treating related to VEGF or neovascularization)RN 556818-01-0 CAPLUS  
CN Glycine, N-[3-[4-(octadecyloxy)phenyl]-1-oxopropyl]-N-[1',1'',1'''-terphenyl]-4-yl- (9CI) (CA INDEX NAME)RE. CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 13 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2003-374064 CAPLUS  
DN 138-376535  
TI Organic electroluminescent display having red light-emitting layer  
IN Oh, Hyoung Yun; Lee, Sung Koo; Park, Chung Gun; Seo, Jeong Dea; Kim, Myung Seo  
PA LG Electronics Co., Ltd., S. Korea  
SO Jpn. Kokai Tokkyo Koho, 31 pp.

DT Patent

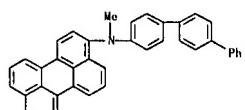
LA Japanese

FAN. CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE

| PT   | JP 2003142269   | A  | 20030516 | JP 2002-293373 | 20021007 -- |
|------|---|----|----------|----------------|-------------|
|      | KR 2003035283   | A  | 20030516 | KR 2001-67267  | 20011030 -- |
|      | US 2003118666   | A1 | 20030526 | US 2002-254999 | 20020926 -- |
|      | EP 1317005  | A2 | 20030604 | EP 2002-29335  | 20021005 -- |
|      | R: AT, BE, CH, DE, DK, ES, FR, GR, GB, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK |    |          |                |             |
|      | CN 1416301  | A  | 20030507 | CN 2002-148125 | 20021030 -- |
| PRAJ | KR 2001-67267   | A  | 20011030 |                |             |
| OS   | MARPAT 138-376353   |    |          |                |             |

AB The display has a red light-emitting layer between electrodes, and the layer contains a guest substance of red-emitting substance and  $\geq 2$  host substances. Preferably, one of the host substances is a (substituted) quinoline derivative or a compound represented by (I).  
(I). $L_1L_2N=m-z$ ;  $m=1-8$ ;  $z=A1, A2Q43$ ;  $A1=(substituted) aromatic hydrocarbylene, heterocyclic group, aliphatic hydrocarbylene; A2-3=(substituted) aromatic hydrocarbylene, heterocyclic group, aliphatic hydrocarbylene, heterocyclic group; A1-3 are connected to N via aliphatic hydrocarbylene, amido, or imine; Q = (substituted) aromatic hydrocarbylene, heterocyclic group, aliphatic hydrocarbylene, heterocyclic group, amido, ester, carbonyl, azo, imine; L1-4 = (substituted) aromatic hydrocarbyl, heterocyclic group, aliphatic hydrocarbyl; silyl, H]. The display emits red light with high luminescent efficiency.$ IT 522653-14-1  
RL: DEV (Device component use); USES (Uses)

(host: organic electroluminescent display having red light-emitting layer containing host substances for high luminescent efficiency)

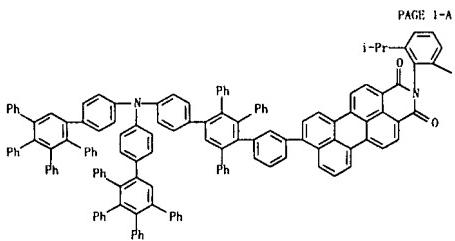
RN 522653-14-1 CAPLUS  
CN 3-Perylenamine, N-methyl-N-[1',1':4',1''-terphenyl]-4-yl- (9CI) (CA INDEX NAME)

L5 ANSWER 14 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2003:335607 CAPLUS  
 DN 139:283194

TI Direct proof of electron transfer in a rigid first generation triphenylamine core dendrimer substituted with a peryleneimide acceptor  
 AU Lor, M.; Jordans, S.; De Belder, G.; Schweitzer, G.; Fron, E.; Vlaemin, L.; Cottet, M.; Weil, T.; Muellen, K.; Verhoeven, J. W.; Van der Auweraer, M.; De Schryver, F. C.  
 CS Department of Chemistry, Katholieke Universiteit Leuven, Heverlee, 3001, Belg.  
 SO Photochemical & Photobiological Sciences (2003), 2(5), 501-510  
 CODEN: PPSMCB; ISSN: 1474-905X  
 PB Royal Society of Chemistry  
 DT Journal  
 LA English  
 AB The combination of nanosecond transient absorption expts. and single photon timing expts. proved the occurrence of an electron transfer process in the tri-Ph<sub>3</sub>N amine core dendrimer, NPI1, by demonstrating the presence of an ion-pair absorption for NPI1 in solvents of medium polarity. By means of femtosecond transient absorption measurements, the rate of this ion-pair absorption dominated by the radical anion absorption could be determined, resulting in a value of 180 ps in MeTHF and 138 ps in THF. Furthermore, in femtosecond fluorescence up-conversion as well as in monochromatic femtosecond transient absorption, a few ps component was resolved which was assigned to a vibrational and solvent relaxation process of the locally excited singlet state of the peryleneimide.

IT 460061-98-7  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)  
 (photoinduced charge separation and recombination in first generation dendrimer containing triphenylamine core decorated with one peryleneimide acceptor)

RN 460061-98-7 CAPLUS  
 CN IH-Perylo[3,4-cd]pyridine-1,3(2H)-dione, 2-[2,6-bis(i-methylethyl)phenyl]-8-[4-[4-(bis[3',4',5'-tri phenyl][1,1':2',1"-terphenyl]-4-yl)amino]phenyl]-3',6'-diphenyl[1,1':2',1"-terphenyl]-3-yl]- (9CI) (CA INDEX NAME)

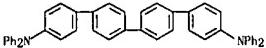


L5 ANSWER 15 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2003:151113 CAPLUS  
 DN 138:338644

TI Diphenylamino Group as an Effective Handle to Conjugated Donor-Acceptor Polymers through Electropolymerization  
 AU Leung, Man-kit; Chou, Meng-Yen; Su, Yuhlong Oliver; Chiang, Chang Ling; Chen, Hung-Lin; Yang, Chin Fu; Yang, Chih-Chiang; Lin, Chang-Chih; Chen, Hung-Ting  
 CS Department of Chemistry, National Taiwan University, Taipei, 106, Taiwan  
 SO Organic Letters (2003), 5(6), 839-842  
 CODEN: ORLEFT; ISSN: 1523-7060  
 PB American Chemical Society  
 DT Journal  
 LA English  
 AB The diphenylamino group is an effective handle for electropolymer. Five different monomers were prepared, but only one showed an oxidation current increase when the number of the cycles increased, indicated the formation of polymeric film on the electrode during cyclic voltammetry. Interesting electrochromic and photoresponsive behavior of the polymeric film was studied.

IT 145898-89-1  
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (potential monomer: diphenylamino group monomer as an effective handle to conjugated donor-acceptor polymers through electropolymer.)

RN 145898-89-1 CAPLUS  
 CN [1,1':4',1'',4'',1''-Quaterphenyl]-4,4'''-diamine, N4,N4,N4'',N4'''-tetraphenyl- (CA INDEX NAME)



RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 14 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 AN 2003:143381 CAPLUS  
 DN 138:187508

TI Preparation of aromatic diamines by dimerization of aromatic halides  
 IN Kawamura, Hisayuki; Moriwaki, Fumio  
 PA Idemitsu Kosan Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 11 pp.  
 CODEN: JKXXAF

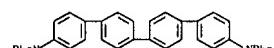
DT Patent  
 LA Japanese  
 FAN.CNT 1

| PATENT NO.       | KIND | DATE     | APPLICATION NO. | DATE        |
|------------------|------|----------|-----------------|-------------|
| P1 JP 2003055320 | A    | 20030226 | JP 2001-247018  | 20010816 <- |
| CN 1521160       |      |          | CN 2003-103880  | 20030214    |

PRA1 JP 2001-247018 A 20010816  
 OS WO9701474A1 199708  
 AB Ar1Ar2Nar3Ar2 [Arl, Ar2 = (un)substituted 5- to 30-membered monocyclic aromatic group; X = halo], useful as materials for heat-resistant electroluminescent devices and charge-transfer agents for electrophotog. photoreceptors, are prepared by dimerization of Ar1Ar2Nar3X (Ar1-Ar3 = same as above; X = halo). Thus, NiCl2 was treated with Ph3P, Zn powder, and KI at 70-80° in vacuo, mixed with THF, and treated with N,N-di(4-diphenyl)-4-bromoniline/THF at 65-70° for 10 h to give 64% N,N,N',N'-tetrakis(4-diphenyl)-4,4'-benzidine, vs. 3%, when prepared from N,N'-bis(4-diphenyl)-4,4'-benzidine and 4-iodobiphenyl.

IT 145898-89-1P  
 RL: IMP (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)  
 (Preparation of aromatic diamines as materials for charge-transfer agents and electroluminescent devices with transition metal complexes as dimerization catalysts)

RN 145898-89-1 CAPLUS  
 CN [1,1':4',1'',4'',1''-Quaterphenyl]-4,4'''-diamine, N4,N4,N4'',N4'''-tetraphenyl- (CA INDEX NAME)



L5 ANSWER 17 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2003:132354 CAPLUS  
 DN 138-105597

TI Aromatic amine, manufacture of the amine, and organic electroluminescent device using the amine  
 IN Tanabe, Yoshimitsu; Shimamura, Takehiko; Ishida, Tsutomu; Totani, Yoshiyuki; Nakatsuka, Masakatsu  
 PA Mitsui Chemicals Inc., Japan  
 SO Jpn. Kokai Tokkyo Koho, 39 pp.  
 CODEN: JKXXAF

DT Patent

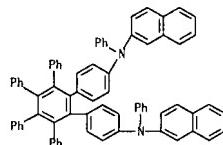
LA Japanese

FAN CNT 1

| PATENT NO.           | KIND | DATE     | APPLICATION NO. | DATE         |
|----------------------|------|----------|-----------------|--------------|
| PI JP 2003048868     | A    | 20030221 | JP 2001-233457  | 20010801 <-- |
| PRAI JP 2001-233457  |      | 20010801 |                 |              |
| OS MARPAT 138:195597 |      |          |                 |              |
| GT                   |      |          |                 |              |

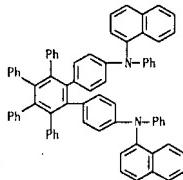
\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The amine is that represented as I (X1-X4, A1-A25 involves amino group), which is manufactured by reaction of diphenylacetylene II and cyclopentadienone III (Xs and As are the same as I). The electroluminescent device involves a layer containing 2 or 3 of I, which may be a pos. hole-transporting layer or a light-emitting layer. The device shows enhanced stability and durability.  
 498572-33-1P 498572-35-3P 498572-36-4P  
 498572-38-6P 498572-39-7P 498572-40-0P  
 498582-87-0 CAPLUS  
 [1,1':2',1''-Terphenyl]-4,4''-diamine, N,N'-di(4-aminophenyl)-3,4,5,6-tetraphenylbenzene  
 RL: IMF (Industrial manufacturer); TEM (Technical or engineered material use); PBEP (Preparation); TSES (Uses)  
 (aromatic amine prepared from diphenylacetylene and cyclopentadienone for electroluminescent device)  
 RN 498572-33-1 CAPLUS  
 CN [1,1':2',1''-Terphenyl]-4,4''-diamine, N,N'-di-2-naphthalenyl-N,N',3',4',5',6'-hexaphenyl- (9CI) (CA INDEX NAME)

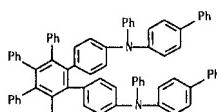


RN 498572-35-3 CAPLUS  
 CN [1,1':2',1''-Terphenyl]-4,4''-diamine, N,N'-di-1-naphthalenyl-N,N',3',4',5',6'-hexaphenyl- (9CI) (CA INDEX NAME)

L5 ANSWER 17 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



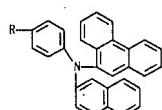
RN 498572-36-4 CAPLUS  
 CN [1,1':2',1''-Terphenyl]-4,4''-diamine, N,N'-bis((1,1'-biphenyl)-4-yl)-N,N',3',4',5',6'-hexaphenyl- (9CI) (CA INDEX NAME)



RN 498572-38-6 CAPLUS  
 CN [1,1':2',1''-Terphenyl]-4,4''-diamine, N,N'-di-2-naphthalenyl-N,N'-di-9-phenanthrenyl-3',4',5',6'-tetraphenyl- (9CI) (CA INDEX NAME)

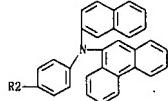


PAGE 1-A

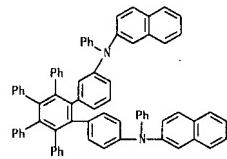


L5 ANSWER 17 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

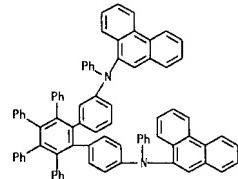
PAGE 2-A



RN 498572-39-7 CAPLUS  
 CN [1,1':2',1''-Terphenyl]-3,4''-diamine, N,N'-di-2-naphthalenyl-N,N',3',4',5',6'-hexaphenyl- (9CI) (CA INDEX NAME)

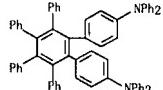


RN 498572-40-0 CAPLUS  
 CN [1,1':2',1''-Terphenyl]-3,4''-diamine, N,N'-di-9-phenanthrenyl-N,N',3',4',5',6'-hexaphenyl- (9CI) (CA INDEX NAME)



RN 498582-87-0 CAPLUS  
 CN [1,1':2',1''-Terphenyl]-4,4''-diamine, N,N,N',N',3',4',5',6'-octaphenyl- (9CI) (CA INDEX NAME)

L5 ANSWER 17 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L5 ANSWER 18 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2003:94721 CAPLUS  
 DN 138:144851

TI Organic electroluminescent device

IN Ozaki, Tadayoshi; Hirose, Eiichi; Okuda, Daisuke; Yoneyama, Hiroto; Seki, Mieko; Mashimo, Kiyokazu; Agata, Takashi; Sato, Katsuhiro; Nakada, Katsumi; Iwasaki, Masahiro

PA Fuji Xerox Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 31 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN CNT 1

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE         |
|---------------|------|----------|-----------------|--------------|
| JP 2003036979 | A    | 20030207 | JP 2001-221292  | 20010723 --> |

PRAI JP 2001-221292

AB The invention refers to an electroluminescent device comprising at least one polymer or with monomer -PhN(Ar)-X-(N(Ar)Ph)-k- or -PhPhN(Ar)-X-(N(Ar)PhPh)-k- [Ar = (un)substituted aromatic or 3-10 ring polycyclic aromatic or 2-10 ring condensed aromatic; X = (un)substituted divalent aromatic group; k = 0, 1] as a hole transport material.

IT 494784-00-8

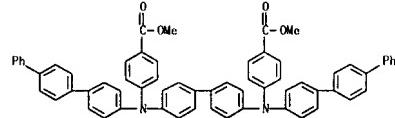
RL: DEV (Device component used); USES (Uses)  
 (organic electroluminescent device using aryl amine polyester hole transport material)

RN 494784-00-8 CAPLUS

CN Benzoic acid, 4,4'-[{[1,1'-biphenyl]-4,4'-diyl}bis({[1,1':4',1''-terphenyl]-4-ylimino})]bis-, dimethyl ester, polymer with 1,2-ethanediol (9CI) (CA INDEX NAME)

CM 1

CRN 494783-99-2  
 CMF C64 H48 N2 O4



CM 2

CRN 107-21-1  
 CMF C2 H6 O2

HO-CH2-CH2-OH

L5 ANSWER 19 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2003:75532 CAPLUS

DN 138:144803

TI Organic electroluminescent device and blue luminescence component

IN Saito, Hideki; Saito, Yoshiharu; Ichinosewa, Akiko

PA Mitsubishi Chemical Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 23 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

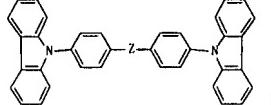
FAN CNT 1

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE         |
|---------------|------|----------|-----------------|--------------|
| JP 2003031371 | A    | 20030313 | JP 2001-216944  | 20010717 --> |

PRAI JP 2001-216944

OS MARPAT 138:144803

GI



AB The invention refers to an electroluminescent device comprising L [Z = divalent substituent; and the Ph and carbazolyl groups may be substituted] as a hole blocking layer.

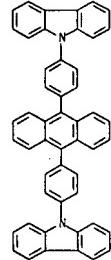
IT 194296-19-0

RL: PRP (Properties)  
 (organic electroluminescent device and blue luminescence component using Ph carbazolyl derivative as hole blocking layer)

RN 194296-19-0 CAPLUS

CN 9H-Carbazole, 9,9'-(9,10-anthraconediylid-4,1-phenylene)bis- (9CI) (CA INDEX NAME)

L5 ANSWER 19 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L5 ANSWER 20 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:40471 CAPLUS

DN 138:114776

TI Organic electroluminescent element

IN Okuda, Daisuke; Seki, Mieko; Yoneyama, Hiroto; Hirose, Eiichi; Ozaki, Tadayoshi; Agata, Takashi; Mashimo, Kiyokazu; Sato, Katsuhiro

PA Fuji Xerox Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 28 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN CNT 1

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE         |
|---------------|------|----------|-----------------|--------------|
| JP 2003017270 | A    | 20030117 | JP 2001-198265  | 20010629 --> |

PRAI JP 2001-198265

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The invention refers to an organic electroluminescent device comprising a diaryl amine polyester I or II [Ar = (un)substituted C3-10 univalent polycyclic aromatic or C2-10 condensed aromatic; X = (un)substituted divalent aromatic; T = divalent C1-6 straight chain or C2-10 branched hydrocarbon; k = 0, 1] as a hole transport material.

IT 485832-89-0

RL: DEV (Device component used); USES (Uses)

(organic electroluminescent element with diaryl amine ester)

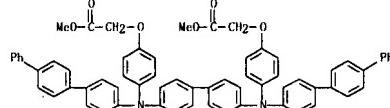
RN 485832-89-1 CAPLUS

CN Acetic acid, 2,2'-[{[1,1'-biphenyl]-4,4'-diyl}bis({[1,1':4',1''-terphenyl]-4-ylimino})-4,1-phenyleneoxy]bis-, dimethyl ester, polymer with 1,2-ethanediol (9CI) (CA INDEX NAME)

CM 1

CRN 485832-88-0

CMF C66 H52 N2 O6



CM 2

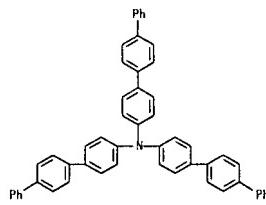
CRN 107-21-1

CMF C2 H6 O2

HO-CH2-CH2-OH

L5 ANSWER 21 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2002:18753 CAPLUS  
 DN 138:31143B

TI A novel family of boron-containing hole-blocking amorphous molecular materials for blue- and blue-violet-emitting organic electroluminescent devices  
 AU Kinoshita, Motoi; Kita, Hiroshi; Shirota, Yasuhiko  
 CS Department of Applied Chemistry, Faculty of Engineering, Osaka University, Suita, 565-0871, Japan  
 SO Advanced Functional Materials (2002), 12(11-12), 780-786  
 CODEN: AFMDC6; ISSN: 1616-301X  
 PB Wiley-VCH Verlag GmbH & Co. KGaA  
 DT Journal  
 LA English  
 AB A novel family of amorphous mol. materials that function as hole blockers in organic electroluminescent (EL) devices, tris(2,3,5,6-tetramethylphenyl)borane (TPhB), tri(2,3,5,6-(tetramethylbiphenyl)-4-yl)borane, tri(2,3,5,6-(terphenyl)-4-yl)borane, tri(4-(1,1'-biphenyl)-4-yl)borane (TPhB), and tri(4-(1,1'-biphenyl)-5-yl)-2,3,5,6-tetramethylphenyl)borane (TTPhB), have been designed and synthesized. They readily form stable amorphous glasses with high glass-transition temps., and are characterized by reversible cathodic reduction and relatively large HOMO-LUMO energy gaps. High-performance blue- and blue-violet-emitting organic EL devices have been developed using TPhB, TTPhB, and TTPhB as hole blockers and N,N'-di(1-naphthyl)-N,N'-diphenyl[1,1'-biphenyl]-4,4'-diamine, tri(4-terphenyl-4-yl)amine, and N,N'-bis(3-methylphenyl)-N,N'-diphenyl[1,1'-biphenyl]-4,4'-diamine as emitters.  
 IT 145693-79-4  
 RL: DEV (Device component use); USES (Uses)  
 (emitter: performance of blue- and blue-violet-emitting electroluminescent display devices with borane derivative as hole-blocking amorphous material)  
 RN 145693-79-4 CAPLUS  
 CN [1,1':4',1''-Terphenyl]-4-amine, N,N'-bis([1,1':4',1''-terphenyl]-4-yl)- (9CI) (CA INDEX NAME)



RE. CNT 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 22 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2002:87053R CAPLUS  
 DN 138:36212B

TI Electroluminescence Characteristics of Card Anthracene-containing Polyimide: The Effect of the Cathode and Anode Materials  
 AU Kolesnikov, V. A.; Brusenitsova, M. A.; Rumyansev, B. M.; Berendyaev, V. I.; Vannikov, A. V.  
 CS Frumkin Institute of Electrochemistry, Russian Academy of Sciences, Moscow, 119071, Russia  
 SO Russian Journal of Electrochemistry (Translation of Elektrokhimiya) (2002), 38(11), 1163-1172  
 CODEN: RJEZ3; ISSN: 1023-1935  
 PB MAIK Nauka/Interperiodica Publishing  
 DT Journal  
 LA English  
 AB The effect of electrode materials on the characteristics of electroluminescence devices of the type transparent conductive substrate/polyimide/metallic electrode is studied. It is shown that variations in the electroluminescence spectra after replacing the substrate material and the metal of the top electrode are discussed. The applicability of the Fowler-Nordheim model for describing the injection of charge carriers in the electroluminescence devices under study is analyzed.

IT 168026-63-9  
 RL: PRP (Properties)  
 (effect of cathode and anode materials on electroluminescence characteristics of card anthracene-containing polyimide)  
 RN 168026-63-9 CAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)(3-oxo-1(3H)-isobenzofuranylidene)(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)-1,4-phenylene-9,10-anthracenediyl]-1,4-phenylene] (9CI) (CA INDEX NAME)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*  
 RE. CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 23 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2002:781878 CAPLUS  
 DN 138:114312B

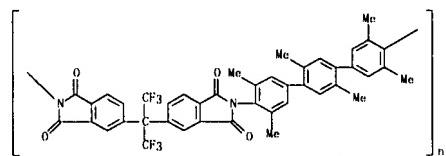
TI Near-infrared electroluminescence in polymer composites based on organic nanocrystals  
 AU Molisev, Eugene I.; Lypenko, Dmitry A.; Bobinkin, Vladimir V.; Tameev, Alek R.; Kirillov, Sergey V.; Shapiro, Boris I.; Schoo, Herman F. M.; Vannikov, Anatoly V.  
 CS Frumkin Institute of Electrochemistry of the Russian Academy of Sciences, Moscow, 119071, Russia  
 SO Applied Physics Letters (2002), 81(16), 3088-3090  
 CODEN: APPLAB; ISSN: 0003-6951  
 PB American Institute of Physics  
 DT Journal  
 LA English  
 AB Near-electroluminescence was revealed in single-layer light-emitting diodes based on a type of electroactive polymer nanocomposites-electron-hole conducting aromatic polyimide and organic nanocryst. particles of cyanine mol. known as J-aggregates. These materials exhibit a very narrow emission band with a maximum at 815 nm. Dramatic increase of charge-carrier mobility was observed for these layers containing the J-aggregate nanocryst. phase.  
 IT 168026-63-9  
 RL: DEV (Device component use); PRP (Properties); USES (Uses)  
 (near-IR electroluminescence in polymer composites based on organic nanocrystals)  
 RN 168026-63-9 CAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)(3-oxo-1(3H)-isobenzofuranylidene)(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)(2',3',5',5'',hexamethyl[1,1':4',1''-terphenyl]-4,4'-diyl)] (9CI) (CA INDEX NAME)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*  
 RE. CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 24 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2002:757907 CAPLUS  
 DN 138:75308

TI Molecular modeling of polyimide membranes for gas separation  
 AU Heuchel, Matthias; Hofmann, Dieter  
 CS GKSS Research Center, Institute of Chemistry, Teltow, D-14513, Germany  
 SO Desalination (2002), 144(1-3), 67-72  
 CODEN: DSLNAH; ISSN: 0011-9164  
 PB Elsevier Science B. V.  
 DT Journal  
 LA English  
 AB Well-equilibrated mol. packing models were produced for 7 different polyimides. For all packings the transport properties (solubility and diffusion coefficient) were calculated for N<sub>2</sub>, O<sub>2</sub> and CO<sub>2</sub> using the Gussav-Suter model. Comparison with exptl. data allowed to validate the quality of the model structures. A significant improvement to former results could be assessed for the predicted selectivity values.  
 IT 251480-50-9  
 RL: DEV (Device component use); USES (Uses)  
 (mol. modeling of polyimide membranes for gas separation)  
 RN 251480-50-9 CAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)(2,2,2-trifluoro-1-(trifluoromethyl)ethylidene)(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)(2',3',5',5'',hexamethyl[1,1':4',1''-terphenyl]-4,4'-diyl)] (9CI) (CA INDEX NAME)

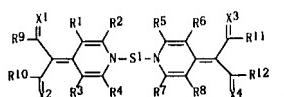


RE. CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 25 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2002:207403 CAPLUS  
 DN 137:255414

TI Liquid crystal composite and liquid crystal device  
 IN Kata, Takashi  
 PA Fuji Photo Film Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 19 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese  
 FAN. CNT 1  
 PATENT NO. KIND DATE APPLICATION NO. DATE  
 PI JP 2002265947 A 20020918 JP 2001-66197 20010309 <--  
 PRAI JP 2001-66197  
 OS MARPAT 137:255414  
 GI

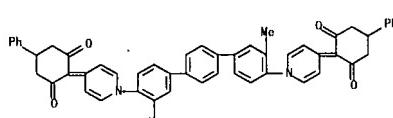


AB The invention refers to a liquid crystal composite comprising a two color pigment with high order parameter and basic and acidic components in a chain A1-L1-D1-S1-D2-L2-A2, [A1, A2 = acidic component; L1, L2 = conjugate chains; D1, D2 = basic component; S1 = single bond or chain] such as if  $X_1-X_4=O$  or S; R1-R8 = substituents; R9-R12 = alkyl or aryl; R9,10 or R11,12 = join together to form rings; S1 = single bond or chain).

IT 461005-29-8  
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (liquid crystal composite and liquid crystal device)

RN 461005-29-8 CAPLUS

CN 1,3-Cyclohexanedione, 2,2'-(3,3'-dimethyl[1,1':4',1''-terphenyl]-4,4'-'-diyl)di-1(4H)-pyridinyl-4-ylidene]bis[5-(5-phenyl- (9CI) (CA INDEX NAME)



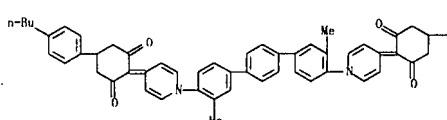
IT 461005-33-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (liquid crystal composite and liquid crystal device)

RN 461005-33-4 CAPLUS

CN 1,3-Cyclohexanedione, 2,2'-(3,3'-dimethyl[1,1':4',1''-terphenyl]-4,4'-'-diyl)di-1(4H)-pyridinyl-4-ylidene]bis[5-(4-butylphenyl)- (9CI) (CA INDEX NAME)

L5 ANSWER 25 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

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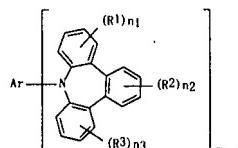


L5 ANSWER 26 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2002:636628 CAPLUS  
 DN 137:176911

TI Benzazepine derivative luminescent material and luminescent element using it

IN Igarashi, Tatsuya  
 PA Fuji Photo Film Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 12 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese  
 FAN. CNT 1  
 PATENT NO. KIND DATE APPLICATION NO. DATE  
 PI JP 2002235075 A 20020823 JP 2001-33683 20010209 <--  
 PRAI JP 2001-33683  
 OS MARPAT 137:176911  
 GI



AB The luminescent materials are benzazepine derivs. represented by I [Ar = 2i-valent aromatic hydrocarbyl or aromatic heterocyclic group having condensed ring structure of 2i rings, optionally with (heteroaryl) and/or (hetero) arylene; R1-3 = substituent; n1-n3 = 0-4; m ≥ 1]. The luminescent element contains the benzazepine derivs. in 2i of light-emitting layer and/or organic compound layer. The luminescent element has high brightness and durability. The benzazepine derivs. are also claimed.

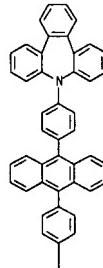
IT 307531-15-3  
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)  
 (benzazepine derivative luminescent material for luminescent element with high brightness and durability)

RN 307531-15-3 CAPLUS

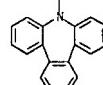
CN 9H-Tribenz[b,d,f]azepline, 9,9'-(9,10-anthracenediyl)-4,1-phenylene)bis- (9CI) (CA INDEX NAME)

L5 ANSWER 26 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

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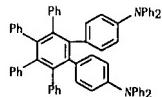


L5 ANSWER 27 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2002:622936 CAPLUS  
 DN 138:72964

TI Optically and thermally induced electron transfer pathways in hexakis[4-(N,N-diarylamino)phenyl]benzene derivatives  
 AU Lambert, Christoph; Noll, Gilbert  
 CS Institut fur Organische Chemie, Julius-Maximilians-Universitat Wurzburg,  
 Wurzburg, 97074, Germany  
 SO Chemistry-A European Journal (2002), 8(15), 3467-3477  
 CODEN: CEJUED; ISSN: 0947-6539  
 PB Wiley-VCH Verlag GmbH  
 DT Journal  
 LA English  
 OS CASREACT 138:72964  
 AB The optically and thermally induced electron transfer pathways of highly sym. (D3) hexaarylbenzene systems with six triarylamino redox sites have been investigated. Owing to slightly different initial redox potentials, the radical cation could be selectively generated by electrochemical methods. This trication shows a strong intervalence charge-transfer band in the near IR (NIR) that was measured by spectroelectrochem. and analyzed using multi-dimensional Mulliken-Hush theory. Quantum chemical AM1 CI calcns. indicate that there is no optically induced concerted three-electron transfer that transforms the ground state into a state in which all three pos. charged triarylamino moieties change place with their neutral neighbors. The potential energy surface of the ground state was constructed by using quadratic potentials. From this potential surface it is apparent that there is also no thermally allowed concerted three-electron transfer pathway. Instead, three consecutive one-electron transfer steps are necessary for this process.

IT 479639-15-1  
 RL: PRP (Properties)  
 (dipole moment: preparation and optically and thermally induced electron transfer pathways in hexakis[4-(N,N-diarylamino)phenyl]benzene trication)

RN 479639-15-1 CAPLUS  
 CN [1,1'-2',1''-Terphenyl]-4,4''-diamine, N,N,N',N'.3',4',5',6'-octaphenyl-, radical ion(+); (9CI) (CA INDEX NAME)



RE. CNT 80 THERE ARE 80 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

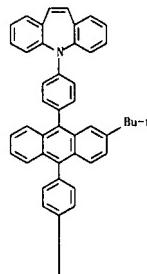
L5 ANSWER 28 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2002:600244 CAPLUS  
 DN 137:301804

TI Blue-Emitting Anthracenes with End-Capping Diarylaminies  
 AU Daniel, Krzysztof; Huang, Tai-Hsiang; Lin, Jiann T.; Tao, Yu-Tai; Chuen, Chang-Hao  
 CS Institute of Chemistry, Academia Sinica, Taipei, WA, 115, USA  
 SO Chemistry of Materials (2002), 14(9), 3860-3865  
 CODEN: CMATEX; ISSN: 0897-4756  
 PB American Chemical Society  
 DT Journal  
 LA English  
 AB 2-Tert-butyl-9,10-bis(bromoaryl)anthracenes were synthesized from 2-Tert-butyl-9,10-anthraquinones. Pd-catalyzed C=C bond formation between these bromo compds. and diarylaminies provides stable 2-Tert-butyl-9,10-dairylnaphthalenes containing two peripheral diarylaminies (anth). They possess high thermal decomposition temperature ( $T_d > 350^{\circ}\text{C}$ ) and form a stable glass ( $T_g > 100^{\circ}\text{C}$ ). Also, they are fluorescent in the blue region with moderate to good quantum efficiencies. Two types of light-emitting diodes (LED) were constructed from anth. (I) ITO/anth/TPB/Mg:Ag and (II) ITO/anth/Alq3/Mg:Ag, where TPB and Alq3 are 1,3,5-tris( $\alpha$ -phenylbenzimidazol-2-yl)benzene and tris( $\beta$ -hydroxyquinolinato)aluminum, resp. In type I devices, the anth function as the hole-transporting and emitting material. In type II devices, emission from Alq3 is observed. Several blue-light-emitting type I devices exhibit good maximum brightness and phys. performance. The relation between the energy levels of the anth and the performance of the light-emitting diode is discussed.

IT 468751-03-4P 468751-04-4P 468751-06-6P  
 RL: DEV (Device component use); PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation); USES (Uses)  
 (blue-emitting anthracenes with end-capping diarylaminies and their properties and applications)

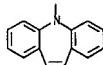
RN 468751-03-3 CAPLUS  
 CN 5H-Dibenzo[b,f]azepine, 5,5'-[{2-(1,1-dimethylethyl)-9,10-anthracenediyi}di-4,1-phenylene]bis[10,11-dihydro- (9CI) (CA INDEX NAME)

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L5 ANSWER 28 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

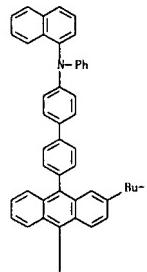
PAGE 2-A



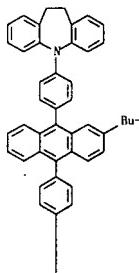
RN 468751-04-4 CAPLUS  
 CN 5H-Dibenzo[b,f]azepine, 5,5'-[{2-(1,1-dimethylethyl)-9,10-anthracenediyi}di-4,1-phenylene]bis[10,11-dihydro- (9CI) (CA INDEX NAME)

L5 ANSWER 28 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

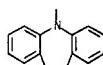
PAGE 1-A



PAGE 1-A



PAGE 2-A



RE. CNT 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

RN 468751-06-6 CAPLUS  
 CN 1-Naphthalenamine, N,N'-[{2-(1,1-dimethylethyl)-9,10-anthracenediyi}bis[1,1'-biphenyl]-4',4-diyi)]bis[N-phenyl]- (9CI) (CA INDEX NAME)

L5 ANSWER 29 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 2002:558364 CAPLUS  
DN 137:255178

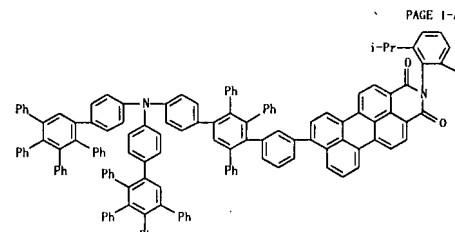
TI Photoinduced electron transfer in a rigid first generation triphenylamine core dendrimer substituted with a peryleneimide acceptor  
AU Lor, Marc; Thielmans, Jan; Viane, Lucien; Colet, Mircea; Hofkens, Johan; Weil, Tanja; Hampel, Christine; Muellen, Klaus; Verhoeven, Jan W.; Van der Auweraer, Mark; De Schryver, Frans C.  
CS Department of Chemistry, Katholieke Universiteit Leuven, Heverlee, 3001, Belg.  
SO Journal of the American Chemical Society (2002), 124(33), 9918-9925  
CODEN: JACSAT; ISSN: 0002-7863  
PB American Chemical Society  
DT Journal  
LA English  
AB The electron-transfer process of a first generation dendrimer with a triphenylamine core substituted with one peryleneimide chromophore at the rim (NPI) was investigated by steady-state and time-resolved spectroscopic techniques in two different solvents of medium and low polarity. Single photon counting experiments showed a fast charge separation and a thermally activated back reaction, which is uncommon for a polyaryl bridge or long-distance through-space electron transfer. The four exponential fluorescence decay can be traced to the presence of two subsets of mols., which are constitutional isomers of NPI. Although formally NPI resembles a donor-bridge-acceptor compound, detailed anal. of the data shows that the electron transfer occurs by a through-space mechanism. This amine core dendrimer has peculiar and unique characteristics resulting in the observation of efficient back transfer and delayed peryleneimide fluorescence in di-Et ether at 293 K and very long-lived charge recombination luminescence at 77 K.

IT 460061-97-6 460061-98-7  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical, properties); PRO (Process)  
(photoinduced long-range intramol. forward and thermally activated back electron-transfers in triphenylamine core dendrimer containing peryleneimide acceptor)  
RN 460061-97-6 CAPLUS  
CN 1H-Perylo[3,4-cd]pyridine-1,3(2H)-dione, 2-[2,6-bis(1-methylethyl)phenyl]-8-[4-[4-[bis(3',4',5'-triphenyl)-4-y]amino]phenyl]-3',6'-diphenyl[1,1':2',1''-terphenyl]-3-y]- (9C1) (CA INDEX NAME)

L5 ANSWER 29 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
PAGE 1-B

→ Pr-i

RN 460061-98-7 CAPLUS  
CN 1H-Perylo[3,4-cd]pyridine-1,3(2H)-dione, 2-[2,6-bis(1-methylethyl)phenyl]-8-[4-[4-[bis(3',4',5'-triphenyl)-4-y]amino]phenyl]-3',6'-diphenyl[1,1':2',1''-terphenyl]-3-y]- (9C1) (CA INDEX NAME)



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→ Pr-i

RE. CNT 109 THERE ARE 109 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 30 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 2002:538438 CAPLUS  
DN 137:101420

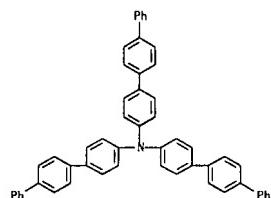
TI Electron beam- or X-ray-sensitive chemically amplified negative photoresist compositions with high sensitivity and resolution  
IN Takahashi, Omote; Shirakawa, Hiroshi; Adegawa, Yutaka  
PA Fuji Photo Film Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 51 pp.  
CODEN: JKXXAF

DT Patent

LA Japanese

FAN. CNT 1

| PATENT NO.  | KIND   | DATE     | APPLICATION NO. | DATE        |
|---|--|----------|-----------------|-------------|
| PI JP 2002202601  | A  | 20020719 | JP 2000-401983  | 20001228 <- |
| PRAI JP 2000-401983   |  | 20001228 |                 |             |
| AB  |  |          |                 |             |
| AB  | The photoresist compns. comprise (A) photocid generators, (B) water-insol. and alkali-soluble resins, (C) crosslinkers for curing the resins in the presence of acids, and (D) compds. for increasing hole mobility of the compns. |          |                 |             |
| IT  | 145693-79-4  |          |                 |             |
| RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)   |  |          |                 |             |
| (hole mobility modifier; electron-beam or X-ray chemical amplified neg. photoresists with high sensitivity and resolution containing hole mobility modifiers) |  |          |                 |             |
| RN 145693-79-4 CAPLUS   |  |          |                 |             |
| CN [1,1':4',1''-Terphenyl]-4-amino, N,N-bis([1,1':4',1''-terphenyl]-4-y)- (9C1) (CA INDEX NAME)   |  |          |                 |             |



L5 ANSWER 31 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 2002:466589 CAPLUS  
DN 137:54571

TI High mobility charge transporting molecules for a charge transport layer  
IN Yanus, John F.; Pal, Damador M.; Silvestri, Markus R.; Fuller, Timothy J.; Ioannidis, Andronique  
PA Xerox Corporation, USA  
SO U.S. Pat. Appl. Publ., 13 pp., Cont.-in-part of U.S. Ser. No. 610,648, abandoned.

CODEN: USXKC0

DT Patent

LA English

FAN. CNT 2

| PATENT NO.   | KIND   | DATE     | APPLICATION NO. | DATE        |
|--|--|----------|-----------------|-------------|
| PI US 2002076632   | A1   | 20020620 | US 2001-976061  | 20011015 <- |
| PRAI US 2000-610648  | B2   | 20000630 |                 |             |
| AB   |  |          |                 |             |
| AB   | This invention disclosed aryl diamine charge transporting mols. having high mobility by increasing the number of phenylene groups between the nitrogen atoms, and these mols. are used in electrophotog. photoconductors. These aryl diamines have the formula (X-Ph)(Y-Ph)-N-(Ph)n-N-(Ph-Y)(Ph-X) (Ph represents a phenylene group; (Ph)n consists of ortho- and/or para-conjugated unsubstituted phenylene groups; X, Y = H or a C1-20 alkyl group; and n is an integer greater than 3). A charge transport layer is prepared by molecularly dispersing or dissolving the aryl diamine charge transporting mol. in a polymeric binder. |          |                 |             |
| IT 398483-76-6P 398483-78-8P   |  |          |                 |             |
| RL: SPA (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)           |  |          |                 |             |
| (high mobility charge transport compound used in electrophotog. photoconductors)                                       |  |          |                 |             |
| RN 398483-76-6 CAPLUS  |  |          |                 |             |
| CN [1,1':4',1''-Quaterphenyl]-4,4'''-diamino, N,N'-bis(4-dodecyphenyl)-N,N'-bis(3-methylphenyl)- (9C1) (CA INDEX NAME) |  |          |                 |             |



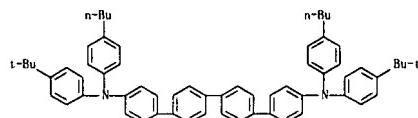
PAGE 1-A

→ (ClCH<sub>2</sub>)<sub>11</sub>-Mo

RN 398483-78-8 CAPLUS  
CN [1,1':4',1''-Quaterphenyl]-4,4'''-diamino, N,N'-bis(4-dodecyphenyl)-N,N'-bis[4-(1,1-dimethylethyl)phenyl]- (9C1) (CA INDEX NAME)

PAGE 1-B

L5 ANSWER 31 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L5 ANSWER 32 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2002:367195 CAPLUS  
 DN 136:377206  
 TI Organic hole transporting and blue light emitting electroluminescent materials

IN Liu, Jia-Ming; Hsieh, Huan-Lurn; Lu, Po-Yen; Wang, Ying-Chuan

PA Industrial Technology Research Institute, Taiwan

SO U.S., 11 pp.

CODEN: USXAM

DT Patent

LA English

FAN CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE

P1 US 6387545 B1 20020514 US 1999-292773 19990414 &lt;-

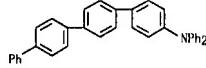
PRA1 JP 2002-092773 19990414

AB Tertiary amine-imparted quaterphenyl compds. are described by the general formula  $R_1C_6H_4-N(R_2C_6H_4)-[P(C_6H_4)]_3-C_6H_4R_3$  ( $R_1$  and  $R_2$  = independently selected H, C1-5 alkyl, or C6-12 aryl); and  $R_3$  = H, C1-5 alkyl, vinyl, or aryl vinyl). The compds. may be used in forming a hole-transporting layer, a blue light-emitting layer, or a combined hole-transporting and light-emitting layer in organic electroluminescent devices. Devices incorporating the compds. and methods for adding hole-transporting capabilities to light-emitting materials by mixing the compds. into them are also described.

IT 423775-66-0 CAPLUS  
 RL DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (organic hole-transporting and blue-emitting electroluminescent materials based on quaterphenyl amine derivs. and devices using them)

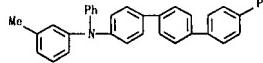
RN 423775-66-0 CAPLUS

CN [1,1':4',1":4",1'''-Quaterphenyl]-4-amine, N,N-diphenyl- (9CI) (CA INDEX NAME)



RN 423775-67-1 CAPLUS

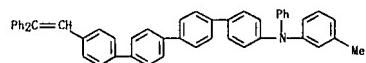
CN [1,1':4',1":4",1'''-Quaterphenyl]-4-amine, N-(3-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



RN 423775-68-2 CAPLUS

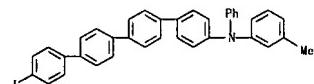
CN [1,1':4',1":4",1'''-Quaterphenyl]-4-amine, 4'''-(2,2-diphenylethenyl)-N-(3-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)

L5 ANSWER 32 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



IT 423775-69-3

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (organic hole-transporting and blue-emitting electroluminescent materials based on quaterphenyl amine derivs. and devices using them)

RN 423775-69-3 CAPLUS  
 CN [1,1':4',1":4",1'''-Quaterphenyl]-4-amine, 4'''-iodo-N-(3-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)RE. CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 33 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2002:313485 CAPLUS  
 DN 136:332596  
 TI Organic electroluminescent device containing hole-transporting polyester layers

IN Seki, Mieko; Okuda, Daisuke; Yoneyama, Hiroto; Hirose, Eiichi; Mashimo, Kiyokazu; Agata, Takashi; Sato, Katsuhiro

PA Jpn. Kokai Tokkyo Koho, 26 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE

P1 JP 2002124388 A 20020426 JP 2000-313190 20001013 &lt;-

P1 3893869 B2 20070314

US 2002182440 A1 20021205 US 2001-973800 20011011 &lt;-

US 6652995 B2 20031125

PRA1 JP 2000-313190 A 20001013

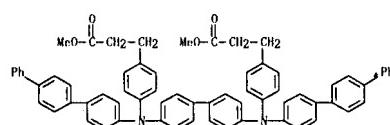
AB The invention relates to an organic electroluminescent device comprising the hole-transporting layer made of the polyesters containing  $\geq 1$  repeating partial structures represented by  $-TC_6H_4N(Ar)_xN(Ar')C_6H_4kT-$  and/or  $-TC_6H_4-C_6H_4N(Ar)_xN(Ar')C_6H_4kT-$  [ $Ar$  = polyarom. (un)substituted with 3-10 aromatic rings or monovalent condensed aromatic (un)substituted with 2-10 aromatic rings;  $X$  = (un)substituted divalent aromatic group;  $T$  = Cl-6 divalent straight hydrocarbyl; or C2-10 divalent branched hydrocarbyl;  $k$  = 0 or 1].

IT 415715-36-7 CAPLUS  
 RL DEV (Device component use); USES (Uses)  
 (organic electroluminescent device containing hole-transporting polyester layers)

RN 415715-36-5 CAPLUS

CN Benzeneprpanoic acid, 4,4'-[1,1'-biphenyl]-4,4'-diylbis([1,1':4',1'''-terphenyl]-4'-ylimino)bis-, dimethyl ester, polymer with 1,2-ethanediol (9CI) (CA INDEX NAME)

CM 1

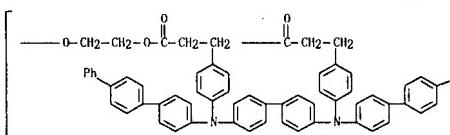
CRN 415715-35-4  
 CMF CG8 II56 N2 O4

CM 2

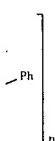
CRN 107-21-1  
 CMF C2 H6 O2HO-CH<sub>2</sub>-CH<sub>2</sub>-OHRN 415715-38-7 CAPLUS  
 CN Poly[oxy-1,2-ethanediyl]oxy(1-oxo-1,3-propanediyl)-1,4-

L5 ANSWER 33 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 phenylene-((1,1':4',1''-terphenyl)-4-yl)imino-((1,1'-biphenyl)-4,4'-diyl((1,1':4',1''-terphenyl)-4-yl)imino)-1,4-phenylene(3-oxo-1,3-propanediyl)) (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

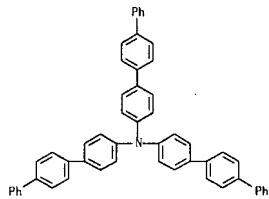


L5 ANSWER 34 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2002-309656 CAPLUS  
 DN 137-161071  
 TI Organic polymeric light-emitting devices  
 AU Vannikov, A. V.  
 CS Inst. Elektronicheskikh i opticheskikh materialov im. A. N. Frumkina, RAN, Moscow, 117071, Russia  
 SO Rossiiskii Khimicheskii Zhurnal (2001), 45(5-6), 41-50  
 CODEN: RKZHEZ; ISSN: 1024-6215  
 PB Rossiiskoe Khimicheskoe Obshchestvo im. D. I. Mendeleeva  
 DT Journal  
 LA Russian  
 AB The author developed new materials for polymeric light-emitting devices. The preparation methods can be used in other optoelectronics. The electronic transport in polymer layers is discussed.  
 IT 168026-63-9  
 RL: DEV (Device component use); PRP (Properties); USES (Uses)  
 RN 168026-63-9 CAPLUS  
 CN Poly((1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)(3-oxo-1(3H)-isobenzofuran-1(3H)-ene)(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)-1,4-phenylene-9,10-anthracenediyl)-1,4-phenylene (9CI) (CA INDEX NAME)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

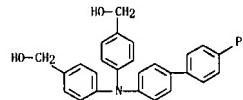
\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

L5 ANSWER 35 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2002-298588 CAPLUS  
 DN 137-101065  
 TI Development of hole-blocking amorphous molecular materials and their application in organic light-emitting diodes  
 AU Shirota, Yasuhiko; Kinoshita, Motoi; Okumoto, Kenji  
 CS Department of Applied Chemistry, Faculty of Engineering, Osaka University, Yamadaoka, Suita, Osaka, 565-0871, Japan  
 SO Proceedings of SPIE-The International Society for Optical Engineering (2002), 4464 (Organic Light-Emitting Materials and Devices V), 203-210  
 CODEN: PSISDG; ISSN: 0277-786X  
 SPIE-The International Society for Optical Engineering  
 DT Journal  
 LA English  
 AB A novel class of amorphous mol. materials, 1,3,5-tris(4-(biphenyl)l)benzene (TBB), 1,3,5-tris(4-(9,9-dimethylfluoren-2-yl)benzene (TFB), and 1,3,5-tris(4-(9,9-dimethylfluoren-2-yl)phenyl)benzene (TFPB), function as hole-blocking materials in organic electroluminescent (EL) devices. 1,3,5-Tris(5-(dimethylboryl)thiophen-2-yl)benzene (TMB-TB) was also found to function as an electron transporter with better hole-blocking properties relative to tris(8-quinolinolato)aluminum. These materials, which readily form stable amorphous glasses with well-defined glass-transition temps., were characterized by relatively high oxidation potentials and large HOMO-LUMO energy gaps. The use of these materials as hole blockers in multilayer organic EL devices permitted efficient blue-violet emission from emitters with hole transporting properties, e.g., N,N'-bis(3,4-diphenyl)-N,N'-diphenyl-1,4,4'-diamine (TD), N,N'-bis(4-biphenyl)-N,N'-diphenyl-1,4,4'-diamine (p-BPD), N,N'-bis(9,9-dimethylfluoren-2-yl)-N,N'-diphenyl-9,9-dimethylfluorene-2,7-diamine (PFDA), and N,N',N'-tetrakis(9,9-dimethylfluoren-2-yl)-[1,1'-biphenyl]-4,4'-diamine (FFD).  
 IT 145693-79-4  
 RL: DEV (Device component use); PRP (Properties); USES (Uses)  
 (development of hole-blocking amorphous mol. materials and application in organic light-emitting diodes)  
 RN 145693-79-4 CAPLUS  
 CN [1,1':4',1''-Terphenyl]-4-amine, N,N-bis([1,1':4',1''-terphenyl]-4-yl) (9CI) (CA INDEX NAME)



RE. CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 36 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2002-292211 CAPLUS  
 DN 136-332559  
 TI Organic electroluminescent devices  
 IN Okuda, Daisuke; Seki, Mieko; Yoneyama, Hiroto; Hirose, Eiichi; Agata, Takashi; Mashimo, Kiyozazu; Sato, Katsuhiro  
 PA Fuji Xerox Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 19 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN, CNT 1  
 PATENT NO. KIND DATE APPLICATION NO. DATE  
 P1 JP 2002117083 A 20020419 JP 2000-309614 20001010 --  
 JP 3855641 B2 20061213  
 PRA1 JP 2000-309614 20001010  
 AB The invention relates to an organic electroluminescent device comprising the hole-transporting layer made of the polyurethane containing the repeating partial structures represented by -C6H4N(Ar)X[N(Ar)C6H4]k- and/or -C6H4-C6H4N(Ar)X[N(Ar)C6H4]k- [Ar = polynuclear aroms. with 3-10 aromatic rings; and X = divalent aromatic group; k = 0 or 1].  
 IT 413603-80-2 413603-81-3  
 RL: DEV (Device component use); USES (Uses)  
 (organic electroluminescent devices)  
 RN 413603-80-2 CAPLUS  
 CN Benzeneethanol, 4,4'-{[1,1':4',1''-terphenyl]-4-yl}imino-polymer with 1,6-disiocyanatohexane (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 413603-79-9  
 CMF C32 H27 N 02



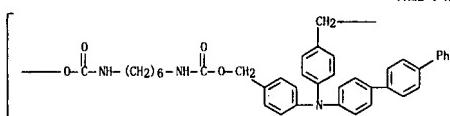
CM 2  
 CRN 822-06-0  
 CMF C8 H12 N 02

OCN-(CH<sub>2</sub>)<sub>6</sub>-NCO

RN 413603-81-3 CAPLUS  
 CN Poly[oxycarbonylimino-1,6-hexanediyliminocarbonyloxymethylene-1,4-phenylene-((1,1':4',1''-terphenyl)-4-yl)imino)-1,4-phenylene] (9CI) (CA INDEX NAME)

L5 ANSWER 36 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A



PAGE 1-B



L5 ANSWER 37 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2002-219992 CAPLUS

DN 136-270189

TI Organic electroluminescent devices

IN Hashimoto, Mitsuji; Suzuki, Naotumi; Fukuyama, Masao

PA Matsushita Electric Industrial Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN CNT 1

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

P1 JP 2002083685 A 20020322 JP 2001-192228 20010626 &lt;-

PRA1 JP 2000-194198 A 20000628

OS MARPAT 136-270189

AB The devices comprise a tetraaryl methane derivative Ar1Ar2Ar3Ar4C [Ar1-4 = (substituted) aromatic hydrocarbyl or aror heterocyclic hydrocarbyl group].

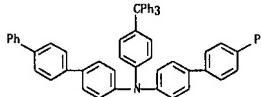
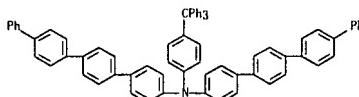
IT 404943-13-1 404943-14-2 404943-15-3

RL: DEV (Device component use); USES (Uses)  
(organic electroluminescent devices)

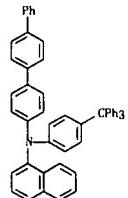
RN 404943-13-1 CAPLUS

CN [1,1':4',1''-Terphenyl]-4'-amine, N-[1,1':4',1''-terphenyl]-4-yl-N-[4-

(triphenylmethyl)phenyl]-(9Cl) (CA INDEX NAME)

RN 404943-14-2 CAPLUS  
CN [1,1':4',1''-4',1'''-Quaterphenyl]-4'-amine, N-[1,1':4',1''-4',1'''-  
quaterphenyl]-4-yl-N-[4-(triphenylmethyl)phenyl]-(9Cl) (CA INDEX NAME)RN 404943-15-3 CAPLUS  
CN [1-Naphthalenamine, N-[1,1':4',1''-terphenyl]-4-yl-N-[4-  
(triphenylmethyl)phenyl]-(9Cl) (CA INDEX NAME)

L5 ANSWER 37 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L5 ANSWER 38 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2002-193391 CAPLUS

DN 136-254354

TI Organic electroluminescent device

IN Hirose, Etsuji; Okuda, Daisuke; Yoneyama, Hiroto; Seki, Mieko; Mashimo,

Kiyokazu; Agata, Takashi; Sato, Katsuhiro

PA Fuji Xerox Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 25 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN CNT 1

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

P1 JP 2002075654 A 20020315 JP 2000-256801 20000828 &lt;-

PRA1 US 2002050597 A1 20020502 US 2001-938675 20010827 &lt;-

US 6670052 B2 20031230

PRA1 JP 2000-256801 A 20000828

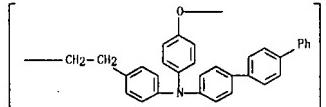
CI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The invention relates to an organic electroluminescent device comprising organic layers sandwiched between a cathode and an anode, wherein the organic layers comprised a charge transporting polyether containing the structure represented by I and II [ Ar = polynuclear aroms. with 3-10 rings, and condensed aroms. with 2-10 rings; X = divalent aromatic group; T = Cl-6 divalent normal chain hydrocarbon and C2-10 divalent branched hydrocarbon; m = 1-3 integers; q = 0 or 1].

IT 403820-73-6 CAPLUS  
RL: DEV (Device component use); USES (Uses)  
(organic electroluminescent device)

RN 403820-73-6 CAPLUS

CN Poly[oxy-1,4-phenylene[1,1':4',1''-terphenyl]-4-ylimino)-1,4-phenylene-  
1,2-ethanediyl]-(9Cl) (CA INDEX NAME)

L5 ANSWER 39 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2002:129108 CAPLUS  
 DN 136:191475

TI Arylamine compound  
 IN Kimura, Toshihide; Miki, Tetsuzo; Nakanishi, Naoko  
 PA Hodogaya Chemical Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese  
 FAN CNT 1

| PATENT NO.          | KIND | DATE     | APPLICATION NO. | DATE        |
|---------------------|------|----------|-----------------|-------------|
| PI JP 2002053533    | A    | 20020219 | JP 2000-243790  | 20000811 <- |
| PRAI JP 2000-243790 |      | 20000811 |                 |             |

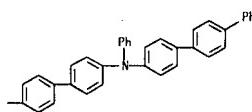
OS MARPAT 136:191475  
 AB The invention refers to a hole transport or electroluminescent material comprising [Ph-C<sub>6</sub>H<sub>4</sub>-p-C<sub>6</sub>H<sub>4</sub>N(C<sub>6</sub>H<sub>4</sub>R)]X[(C<sub>6</sub>H<sub>4</sub>R)<sub>n</sub>-C<sub>6</sub>H<sub>4</sub>-p-C<sub>6</sub>H<sub>4</sub>Ph] (X = p-C<sub>6</sub>H<sub>4</sub>R), naphthylene, 9,10-anthracene, 1,6-pyrenyl, 1,4,5,8-tetraphenylphenanthrene, 1,4-phenylene, p-C<sub>6</sub>H<sub>4</sub>(Ph)C<sub>6</sub>H<sub>4</sub>-p and p-C<sub>6</sub>H<sub>4</sub>YC<sub>6</sub>H<sub>4</sub>-p; R = H, (un)substituted alkyl, alkoxy, Ph, n = 1-3; Y = O, S, (un)substituted CH<sub>2</sub>; R<sub>1</sub>-2 = H, (un)substituted alkyl, alkoxy, Ph, biphenyl or p-C<sub>6</sub>H<sub>4</sub>N(C<sub>6</sub>H<sub>4</sub>R<sub>3</sub>)p-C<sub>6</sub>H<sub>4</sub>p-C<sub>6</sub>H<sub>4</sub>Ph (1); R<sub>1</sub> = R<sub>2</sub> when R<sub>1</sub> or R<sub>2</sub> is not 1; R<sub>3</sub> = H, unsubstituted alkyl, alkoxy, Ph or biphenyl].

IT 398460-89-4  
 RL: DEV (Device component use); USES (Uses)  
 (arylamine compound)

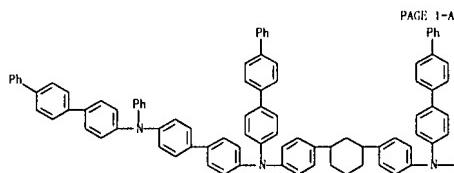
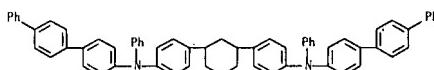
RN 398460-89-4 CAPLUS  
 CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-(1,3-cyclohexanediyli)-4,1-phenylenebis[N-phenyl]-N,N'-bis([1,1':4',1"-terphenyl]-4-yi)-(9CI) (CA INDEX NAME)

L5 ANSWER 39 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-B



IT 398460-90-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (arylamine compound)  
 RN 398460-90-7 CAPLUS  
 CN [1,1':4',1"-Terphenyl]-4-amine, N,N'-(1,3-cyclohexanediyli)-4,1-phenylenebis[N-phenyl]- (9CI) (CA INDEX NAME)



L5 ANSWER 40 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2002:118609 CAPLUS  
 DN 136:191637

TI Electrophotographic photoconductor part using high-mobility charge-transferring molecule  
 IN Venus, John F.; Pai, Damodar M.; Silvestri, Markus R.; Fuller, Timothy J.; Ioannidis, Andronique  
 PA Xerox Corp., USA  
 SO Jpn. Kokai Tokkyo Koho, 12 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese  
 FAN CNT 2

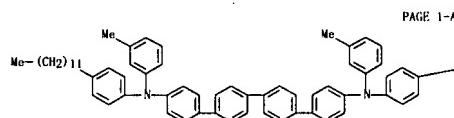
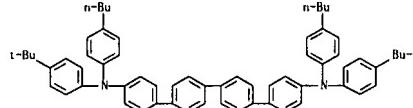
| PATENT NO.          | KIND | DATE     | APPLICATION NO. | DATE        |
|---------------------|------|----------|-----------------|-------------|
| PI JP 2002049166    | A    | 20020215 | JP 2001-189134  | 20010622 <- |
| PRAI US 2000-610648 | A    | 20000630 |                 |             |

OS MARPAT 136:191637  
 AB The part has an elec. conductor layer, optionally a charge-shielding layer, optionally an adhesive layer, a charge-generating layer, and a charge-transferring layer containing arylidamine (X<sub>n</sub>C<sub>6</sub>H<sub>4</sub>) (Y<sub>n</sub>C<sub>6</sub>H<sub>4</sub>)N(C<sub>6</sub>H<sub>4</sub>)<sub>n</sub>N(C<sub>6</sub>H<sub>4</sub>)<sub>n</sub>C<sub>6</sub>H<sub>4</sub>X<sub>n</sub> (X, Y = H, Cl-20 alkyl; n ≥ 4) dispersed or dissolved in a polymer binder.

IT 398483-76-6P 398483-78-8P  
 RL: IMP (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (electrophotog. photoconductor containing high-mobility charge-transferring diarylidamine)

RN 398483-76-6 CAPLUS  
 CN [1,1':4',1"-Terphenyl]-4,4'-diamine, N,N'-bis(4-dodecylphenyl)-N,N'-bis(3-methylphenyl)-(9CI) (CA INDEX NAME)

L5 ANSWER 40 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



PAGE 1-B

—(CH<sub>2</sub>)<sub>11</sub>—Me

RN 398483-78-8 CAPLUS  
 CN [1,1':4',1"-Terphenyl]-4,4'-diamine, N,N'-bis(4-butylphenyl)-N,N'-bis[4-(1,1-dimethylethyl)phenyl]-(9CI) (CA INDEX NAME)

L5 ANSWER 41 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2002-101799 CAPLUS  
 DN 136-205464

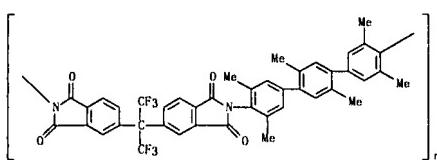
TI Free Volume and Transport Properties in Highly Selective Polymer Membranes  
 AU Nagel, C.; Guenther-Schade, K.; Fritsch, D.; Strunkus, T.; Faupel, F.  
 CS Technische Fakultät, Lehrstuhl für Materialwissenschaften,  
 Christian-Albrechts-Universität zu Kiel, Kiel, D-24143, Germany  
 SO Macromolecules (2002), 35(6), 2071-2077  
 CODEN: MAMOBX; ISSN: 0024-9297  
 PB American Chemical Society  
 DT Journal  
 LA English  
 AB Varying systematically the structure of glassy poly(amide imide), poly(ester imide), and polyimide, we have studied the correlation between free volume and transport properties of highly selective polymer membranes. Free volume data were determined by means of positron annihilation lifetime spectroscopy (PALS) while transport properties originate from time-lag measurements of permanent gases. We find a good correlation between PALS average hole size and transport coeffs. The correlation is much better than with free volume data from glassy polymer networks. It is shown that the permeation properties are controlled not only by free volume fluctuations but also by energy barriers. A modified transport model taking into account the effect of the cohesive energy density on the energy barriers further improves the correlation significantly.

IT 251480-50-9  
 RL: PRP (Properties): TGA (Technical or engineered material use): USES (Uses)

(free volume and gas diffusion in polyamide-polyimide, polyester-polyimide and polyimide membranes)

RN 251480-50-9 CAPLUS

CN Poly[1-(3-dihydro-1,3-dioxo-2H-isindole-2,5-diy)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene][1-(3-dihydro-1,3-dioxo-2H-isindole-5,2-diy)[2-(3,3',5,5',5"-hexamethyl[1,1':4',1"-terphenyl]-4,4'-diyl)]-9(CI) (CA INDEX NAME)]



RE. CNT 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 42 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2001-923340 CAPLUS

DN 135-364614  
 TI Triphenylamine, carbazole, or triphenylbenzene derivatives and electroluminescent devices using them

IN Shirota, Yasuhiko  
 PA Japan  
 SO Jpn. Kokai Tokkyo Koho. 7 pp.  
 CODEN: JKXXAF

DT Patent

LA Japanese

FAN. CNT 1  
 PATENT NO. KIND DATE APPLICATION NO. DATE  
 PI JP 2001136338 A 20011113 JP 2000-71723 20000315 <-  
 PRA1 JP 2000-51209 A 20000228 OS MARPAT 135-364614  
 GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

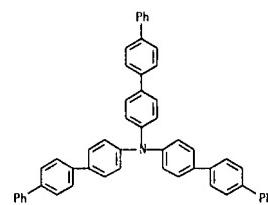
AB Triphenylamine derivs. I (R<sub>1</sub>, R<sub>2</sub> = substituent), carbazole derivs. II (R), R<sub>2</sub> = substituent, and triphenylbenzene derivs. III (R<sub>1</sub>, R<sub>2</sub> = substituent) are claimed. Also claimed are electroluminescent devices having a hole injection layer containing I, II, or III. The electroluminescent devices show high luminescence intensity, high luminescence efficiency, and high heat resistance.

IT 145693-79-4

RL: DEV (Device component use): USES (Uses)  
 (triphenylamine, carbazole, or triphenylbenzene derivs. for hole injection layer of heat-resistant electroluminescent devices)

RN 145693-79-4 CAPLUS

CN [1,1':4',1"-Terphenyl]-4-amine, N,N-bis([1,1':4',1"-terphenyl]-4-y)-9(CI) (CA INDEX NAME)



L5 ANSWER 43 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2001-626018 CAPLUS  
 DN 135-187698

TI Electroluminescent device containing new electron transport substance for improving luminescent properties, heat-resistance, and durability

IN Shirota, Yasuhiko

PA Japan

SO Jpn. Kokai Tokkyo Koho. 7 pp.  
 CODEN: JKXXAF

DT Patent

LA Japanese

FAN. CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE

PI JP 2001233882 A 20010928 JP 2000-51210 20000228 <-  
 PRA1 JP 2000-51210 A 20000228

AB The invention relates to an electroluminescent display device which contains 1,3,5-tris[5-(dimethylboryl)-2-phenyl]benzene in an electron transport layer. The electroluminescent display device contains tris(o-terphenyl-4-yl)amine in a luminescent layer. The electroluminescent display device contains an organic compound selected from 4,4',4"-tris(3-methylphenylphenylamino)triphenylamine, 4,4',4"-tris(2-naphthylphenylamino)triphenylamine, 4,4',4"-tris[biphenyl-2-yl(phenyl)amino]triphenylamine, 4,4',4"-tris[biphenyl-3-yl(phenyl)amino]triphenylamine, 4,4',4"-tris[biphenyl-4-yl(3-methylphenyl)amino]triphenylamine, and 4,4',4"-tris[9,9-dimethyl-2-fluorenyl(phenyl)amino]triphenylamine in a pos. hole injection layer. The electroluminescent device is suitable for blue- and full color-flat panel displays.

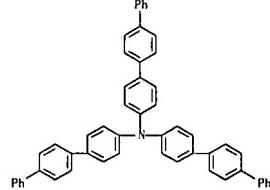
IT 145693-79-4P

RL: DEV (Device component use): PEP (Physical, engineering or chemical process); PMU (Preparation, unclassified); PREP (Preparation); PROC (Process); USES (Uses)

(in luminescent layer; electroluminescent device containing new electron transport substance for improving luminescent properties, heat-resistance, and durability)

RN 145693-79-4 CAPLUS

CN [1,1':4',1"-Terphenyl]-4-amine, N,N-bis([1,1':4',1"-terphenyl]-4-y)-9(CI) (CA INDEX NAME)



L5 ANSWER 44 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2001-523722 CAPLUS  
 DN 135-114246

TI Electroluminescent devices

IN Shirota, Yasuhiko

PA Osaka University, Japan

SO Jpn. Kokai Tokkyo Koho. 6 pp.  
 CODEN: JKXXAF

DT Patent

LA Japanese

FAN. CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE

PI JP 2001196183 A 20010719 JP 2000-1400 20000107 <-  
 PRA1 JP 2000-1400 A 20000107

AB The devices comprise: a glass substrate; an ITO electrode; a hole transport phosphor layer comprising tri(o-terphenyl-4-yl)amine and/or tri(o-terphenyl-4-yl)amine; an electron transport phosphor layer comprising 5,5'-bis(di-*n*-Me boryl)-2,2'-bithiophene; and a MgAg electrode.

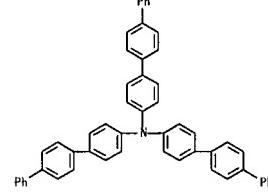
IT 145693-79-4

RL: DEV (Device component use): USES (Uses)

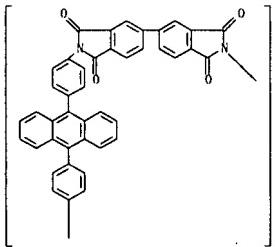
(electroluminescent devices)

RN 145693-79-4 CAPLUS

CN [1,1':4',1"-Terphenyl]-4-amine, N,N-bis([1,1':4',1"-terphenyl]-4-y)-9(CI) (CA INDEX NAME)

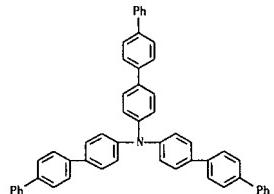


L5 ANSWER 45 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2001:522854 CAPLUS  
 DN 135:242815  
 TI Bipolar transport in aromatic polyimides  
 AU Tsimenov, R.; Kozlov, A. A.; Vannikov, A. V.; Berendyaev, V. I.; Lunina, E. A.; Kotova, B. V.  
 CS Frunkin Institute of Electrochemistry, Russian Academy of Sciences, Moscow, 117071, Russia  
 SO Molecular Crystals and Liquid Crystals Science and Technology, Section A: Molecular Crystals and Liquid Crystals (2001), 361, 101-106  
 CODEN: MCLCF9; ISSN: 1058-725X  
 PB Gordon & Breach Science Publishers  
 DT Journal  
 LA English  
 AB Electron and hole drift mobilities were measured by the time-of-flight technique in films of aromatic polyimides based on 9,10-bis(p-aminophenyl)anthracene or 9,10-bis(phenylthio)anthracene and a series of diimide fragments. The elec. field and temperature dependences of the mobilities were detected. In amorphous films of the soluble polyimide, the drift mobility was found to reach the value of  $10^{-4}$  cm $^2$  V $^{-1}$ s $^{-1}$  at 5.5×10 $5$  V cm $^{-1}$ . In the insol. polyimides films, the mobility was lower by one or two orders of magnitude. This is attributed to the presence of voids in the films of the insol. polyimides.  
 IT 106725-35-3 168026-63-9 202343-27-9  
 RL: PRP (Properties)  
 (bipolar transport in aromatic polyimides)  
 RN 106725-35-3 CAPLUS  
 CN Poly[(1,1':3,3'-tetrahydro-1',3,3'-tetraoxo[5,5'-bi-2H-isindole]-2,2'-diyl)-1,4-phenylene-9,10-anthracenediyl]-1,4-phenylene] (9CI) (CA INDEX NAME)



RN 168026-63-9 CAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)(3-oxo-1(3H)-isobenzofuranlidene)(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl))-1,4-phenylene-9,10-anthracenediyl]-1,4-phenylene] (9CI) (CA INDEX NAME)

L5 ANSWER 46 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2001:505799 CAPLUS  
 DN 135:242261  
 TI 1,3-bis[5-(dimethylboryl)thiophen-2-yl]benzene and 1,3,5-tris[5-(dimethylboryl)thiophen-2-yl]benzene as a novel family of electron-transporting hole blockers for organic electroluminescent devices  
 AU Kinoshita, Motoi; Shirota, Yasuhiko  
 CS Department of Applied Chemistry, Faculty of Engineering, Osaka University, Suita, 565-0871, Japan  
 SO Chemistry Letters (2001), (7), 614-615  
 CODEN: CMLTG; ISSN: 0366-7022  
 PB Chemical Society of Japan  
 DT Journal  
 LA English  
 OS CASREACT 135:242261  
 AB A novel family of electron-transporting hole blockers, 1,3-bis[5-(dimethylboryl)thiophen-2-yl]benzene and 1,3,5-tris[5-(dimethylboryl)thiophen-2-yl]benzene (TMB-TB), were designed and synthesized by using multiple redox behaviors in electrochem. reduction and to easily form stable amorphous glasses with high glass-transition temps. (>100°C). TMB-TB was proven to function well as a hole blocker in blue-emitting organic electroluminescent devices.  
 IT 145693-79-4  
 RL: DEV (Device component; use): PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)  
 (blue emitter in blue-emitting organic electroluminescent device)  
 RN 145693-79-4 CAPLUS  
 CN [1,1':4'',4'''-Terphenyl]-4-amine, N,N-bis([1,1':4'',4'''-terphenyl]-4-yl)-(9CI) (CA INDEX NAME)



RE. CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 45 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 \* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*  
 RN 202343-27-9 CAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)sulfonyl(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)-1,4-phenylene-9,10-anthracenediyl]-1,4-phenylene] (9CI) (CA INDEX NAME)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*  
 RE. CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 47 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2001:472650 CAPLUS  
 DN 135:84034  
 TI Thin film electroluminescent devices  
 IN Satou, Tetsuya; Matsuo, Mikiko; Sugiyama, Hisanori; Hisada, Hitoshi; Shingae, Ryuchi; Murakami, Yoshinobu  
 PA Matsushita Electric Industrial Co., Ltd., Japan  
 SO PCT Int. Appl. 86 pp.  
 DT Patent  
 LA Japanese  
 FAN. CNT 1  

| PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE        |
|--|------|----------|-----------------|-------------|
| WO 2001046335  | A1   | 20010628 | WO 2000-JP9064  | 20001220 <- |
| W: KR, US<br>RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,<br>PT, SE, TR | A    | 20020229 | JP 2000-384568  | 20001219 <- |
| JP 2002055981  | B2   | 20050126 | EP 2000-987670  | 20001220 <- |
| JP 3614365   | B2   | 20020410 | EP 2000-987670  | 20001220 <- |
| EP 1195422   | A1   | 20020410 | EP 2000-987670  | 20001220 <- |
| R: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, NL, SE, MC, PT,<br>IE, FI               | A    | 20040603 | JP 2004-32348   | 20040209    |
| US 2002082400  | A1   | 20030501 | US 2001-913644  | 20010817 <- |
| 6682832  | R2   | 20040127 |                 |             |
| US 2004076854  | A1   | 20040422 | US 2003-718554  | 20031124    |
| US 6989201   | R2   | 20060124 |                 |             |
| JP 2004158464  | A    | 20040603 |                 |             |
| JP 3793537   | B2   | 20060705 |                 |             |

PRAI JP 1999-360247 A 19991220  
 JP 2000-162111 A 20000101  
 JP 2000-162568 A3 20000129  
 WO 2000-JP9064 W 20001220  
 US 2001-913644 A1 20010817

AB An electroluminescent device with a high luminous efficiency, a low drive voltage and a long life is presented. The luminescent layer of the thin film EL device is made of a charge transfer luminescent material whose mol. has a part contributing to charge transfer and a part where at least 2 mol. orbits contributing to radiative transition are localized and which contributes to emission.

IT 346610-66-0 346610-68-2  
 RL: PRP (Properties)  
 (thin film electroluminescent devices)

RN 346610-66-0 CAPLUS

CN 1,4-Benzenediamine, N,N,N'-triphenyl-N-[1,1':4'',4'''-terphenyl]-4-yl-(9CI) (CA INDEX NAME)

RN 346610-68-2 CAPLUS  
 CN 1,4-Benzenediamine, N,N-diphenyl-N-[1,1':4'',4'''-terphenyl]-4-yl-(9CI) (CA INDEX NAME)





L5 ANSWER 52 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 2000-691280 CAPLUS  
DN 133-259476

TI Amino or styryl compound, organic thin film, and electroluminescent device  
IN Hosokawa, Chishio; Funahashi, Masakazu; Azuma, Hisahiro; Ikeda, Shuji;  
Arai, Hiromasa

PA Idemitsu Kosan Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 30 pp.  
CODEN: JKXAF

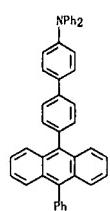
DT Patent  
LA Japanese  
FAN. CNT 1

| PATENT NO.         | KIND | DATE     | APPLICATION NO. | DATE        |
|--------------------|------|----------|-----------------|-------------|
| JP 20000273056     | A    | 20001003 | JP 1999-352216  | 19991210 <- |
| PRA1 JP 1999-10200 | A    | 19990119 |                 |             |

AB The compound comprises  $\text{DiAr}^1\text{X}_1(\text{X}_2)_n$  (1;  $\text{Ar}^1 = \text{C}_6\text{-30 di- or trivalent aromatic group}$ ;  $\text{X}_1, \text{X}_2 = \text{styryl, styrylaryl, diarylamino, diarylaminoryl}$ ;  $n = 0, 1$ ; if  $\text{X}_1$  or  $\text{X}_2 = \text{the styryl group}$ , then  $\text{D}1 = \text{C}_6\text{-60 aromatic group having } \geq 4 \text{ carbon rings}$ ; if  $\text{X}_1$  and  $\text{X}_2 = \text{the amino group}$ , then  $\text{D}1 = \text{C}_6\text{-60 aromatic group having } \geq 5 \text{ carbon rings}$ ). 1 shows good heat resistance (glass transition temperature  $\geq 90^\circ\text{C}$ ) and long luminescence lifetime.

IT 294881-18-8P  
RL: PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(amino or styryl compound for heat-resistant organic thin film or electroluminescent device)

RN 294881-18-8 CAPLUS  
CN  $[(1,1'\text{-Biphenyl})\text{-4-amino, N,N-bis(4-phenyl)-4'-(10-phenyl)-9-anthraceny}]$ - (9CI) (CA INDEX NAME)



IT 279672-13-8 294881-30-4 294881-31-5

294881-32-6 294881-37-1 294881-38-2

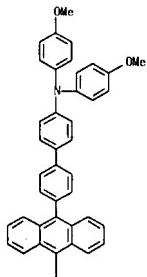
294881-39-3 294881-40-6  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(amino or styryl compound for heat-resistant organic thin film or electroluminescent device)

RN 279672-13-8 CAPLUS  
CN  $[(1,1'\text{-Biphenyl})\text{-4-amino, 4',4'''-(9,10-anthracenediyl)}\text{bis}[N,N\text{-diphenyl}]]$ - (9CI) (CA INDEX NAME)

L5 ANSWER 52 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A

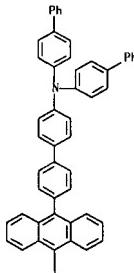


Ph

PAGE 2-A

RN 294881-31-5 CAPLUS  
CN  $[(1,1'\text{-Biphenyl})\text{-4-amino, N,N-bis[(1,1'-biphenyl)-4-y]-4'-(10-phenyl)-9-anthraceny}]$ - (9CI) (CA INDEX NAME)

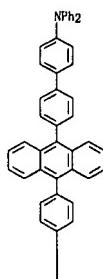
PAGE 1-A



RN 294881-37-1 CAPLUS  
CN  $\text{R}[\text{benzenamine, 4-[10-(3',5'-bis(triphenylethenyl))\{1,1'\text{-biphenyl}\}-4-y]-9-anthraceny}]$ -N,N-diphenyl- (9CI) (CA INDEX NAME)

L5 ANSWER 52 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

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RN 294881-30-4 CAPLUS  
CN  $[(1,1'\text{-Biphenyl})\text{-4-amino, N,N-bis(4-methoxyphenyl)-4'-(10-phenyl)-9-anthraceny}]$ - (9CI) (CA INDEX NAME)

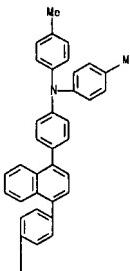
L5 ANSWER 52 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 2-A

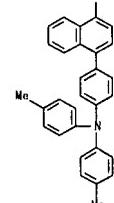
Ph

RN 294881-32-6 CAPLUS  
CN  $\text{R}[\text{benzenamine, 4,4'-(1,4-phenylenedi-4,1-naphthalenediyl)}\text{bis}[N,N\text{-bis(4-methylphenyl)}]]$ - (9CI) (CA INDEX NAME)

PAGE 1-A

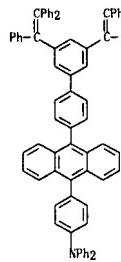


PAGE 2-A

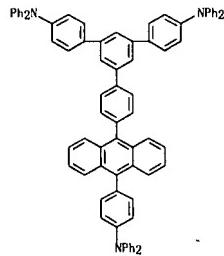


RN 294881-37-1 CAPLUS  
CN  $\text{R}[\text{benzenamine, 4-[10-(3',5'-bis(triphenylethenyl))\{1,1'\text{-biphenyl}\}-4-y]-9-anthraceny}]$ -N,N-diphenyl- (9CI) (CA INDEX NAME)

## L5 ANSWER 52 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

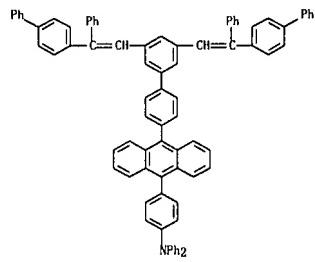


RN 294881-38-2 CAPLUS  
CN [1,1':3',1''-Terphenyl]-4,4''-diamine, 5'-(4-[10-[4-(diphenylamino)phenyl]-9-anthracyenyl]phenyl)-N,N',N'-tetraphenyl- (9CI) (CA INDEX NAME)

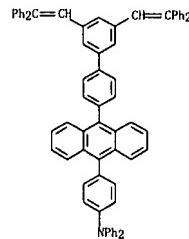


RN 294881-39-3 CAPLUS  
CN Benzenamine, 4-[10-[3',5'-bis(2-[1,1'-biphenyl]-4-yl)-2-phenylethoxy][1,1'-biphenyl]-4-yl]-9-anthracyenyl]-N,N-diphenyl- (9CI) (CA INDEX NAME)

## L5 ANSWER 52 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 294881-40-6 CAPLUS  
CN Benzenamine, 4-[10-[3',5'-bis(2,2-diphenylethenyl){1,1'-biphenyl}-4-yl]-9-anthracyenyl]-N,N-diphenyl- (9CI) (CA INDEX NAME)



## L5 ANSWER 53 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2000-631876 CAPLUS

DN 133-230365

TI Aromatic amino compounds, their preparation, and uses in electroluminescent element or electrophotographic photoreceptor

IN Fujino, Yasumitsu; Ueda, Hideaki; Furukawa, Keiichi

PA Minolta Camera Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 35 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

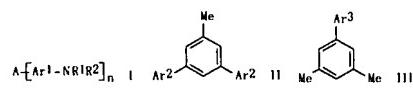
FAN CNT 1

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE        |
|---------------|------|----------|-----------------|-------------|
| JP 2000247932 | A    | 20000912 | JP 1999-52513   | 19990301 <- |

PRAI JP 1999-52513

OS MARPAT 133:230365

GI



AB The amino compds, A(A(NR1R2)n [I]; A = Q1, Q2; Ar2, Ar3 = (substituted) aryl; Ar1 = (substituted) arylene; R1, R2 = alkyl, aralkyl, (substituted) aryl, (substituted aromatic heterocyclyl); n = 1, 2) are prepared by reaction of A(ArX)n (A = Ar1, n = same as I; X = halo) with HNR1R2 (R1, R2 = same as I). I show high charge-transporting ability, luminescence, and durability.

IT 292148-71-1 292148-72-2 292148-73-3

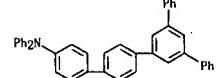
292148-75-5 292148-76-6 292148-81-3

292148-82-4

RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses) (preparation of aromatic amino compds. for electroluminescent element or electrophotog. photoreceptor)

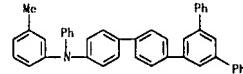
RN 292148-71-1 CAPLUS

CN [1,1':3',1''-4,4''-Quaterphenyl]-4-''-amine, N,N,S'-triphenyl- (9CI) (CA INDEX NAME)

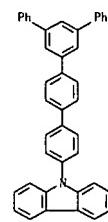


RN 292148-72-2 CAPLUS  
CN [1,1':3',1''-4,4''-Quaterphenyl]-4-''-amine, N-(3-methylphenyl)-N,S'- diphenyl- (9CI) (CA INDEX NAME)

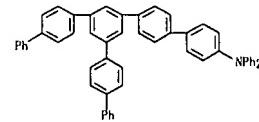
## L5 ANSWER 53 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 292148-73-3 CAPLUS  
CN 9H-Carbazole, 9-(5-(phenyl)[1,1':3',1''-4'',1'''-quaterphenyl]-4-''-y1)- (9CI) (CA INDEX NAME)

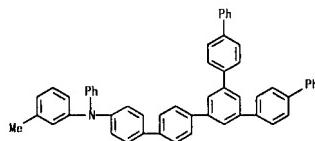


RN 292148-75-5 CAPLUS  
CN [1,1':4',1''-3',1'''-4'',1''''-Quinquephenyl]-4-amine, 5'-[1,1'-biphenyl]-4-yl-N,N-diphenyl- (9CI) (CA INDEX NAME)

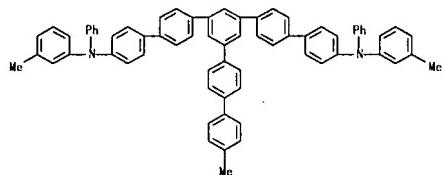


RN 292148-76-6 CAPLUS  
CN [1,1':4',1''-3',1'''-4'',1''''-Quinquephenyl]-4-amine, 5'-[1,1'-biphenyl]-4-yl-N-(3-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)

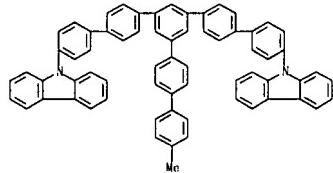
L5 ANSWER 53 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 292148-81-3 CAPLUS  
 CN [1,1':4',1''':3'',1''':4'',1'''-Quinquephenyl]-4,4'''-diamine,  
 5'-(-(4'-methyl[1,1'-biphenyl]-4-yl)-N,N'-bis(3-methylphenyl)-N,N'-diphenyl-  
 (9CI) (CA INDEX NAME)



RN 292148-82-4 CAPLUS  
 CN 9H-Carbazole, 9,9'-(6'-(4'-methyl)[1,1'-biphenyl]-4-  
 yl)[1,1':4',1''':3'',1''':4'',1'''-quinquephenyl]-4,4'''-diyl]bis- (9CI)  
 (CA INDEX NAME)



L5 ANSWER 54 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2000-624619 CAPLUS  
 DN 133-267320  
 TI Electrophotographic photoconductor with n-type charge generation substance  
 IN Yokota, Saburo  
 PA Daikinippon Ink and Chemicals, Inc., Japan  
 SO Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF

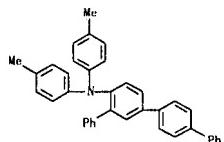
DT Patent  
 LA Japanese  
 FAN CNT 1  
 PATENT NO. KIND DATE APPLICATION NO. DATE

PI JP 20000242006 A 20000908 JP 1999-14192 19990122 <-

PRAI JP 1998-362514 A 19981221  
 AB The invention relates to the electrophotog. photoconductor including the n-type charge generation material-containing charge generation layer with the layer thickness of 25 μm. The work function difference between the charge transport layer and the charge generation layer is 20.2 eV.

IT 290294-11-0  
 RL: DEV (Device component use); USES (Uses)  
 (charge transport material in electrophotog. photoconductor with  
 ≥5 μm thick n-type charge generation layer)

RN 290294-11-0 CAPLUS  
 CN [1,1':3',1'':4'',1'''-Quaterphenyl]-6'-amine, N,N-bis(4-methylphenyl)-  
 (9CI) (CA INDEX NAME)



L5 ANSWER 55 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2000-578482 CAPLUS  
 DN 133-267320  
 TI Electroluminescent properties of anthracene-containing polyimides

AU Mal'tsov, Eugene I.; Bruseniseva, Mariya A.; Lypenko, Dmitry A.; Berendynev, Vladimir I.; Kolesnikov, Vladislav A.; Kotov, Boris V.; Vannikov, Anatoly V.

CS Frunkin Institute of Electrochemistry of the Russian Academy of Sciences, Moscow 117071, Russia

SO Polymers for Advanced Technologies (2000), 11(7), 325-329

CODEN: PADT5; ISSN: 1042-7147

PB John Wiley & Sons Ltd.

DT Journal

LA English

AB Optical and electroluminescent properties of a new soluble anthracene-containing polyimide (AP) is presented. Solubility of AP in organic solvents allows direct casting of the polymer film exhibiting intense photo- and electroluminescence (EL) in the visible range. This nonconjugated polymer was used as emitting and electron-hole transporting layers in polymer light-emitting devices (LEDs). EL properties of the uni- and bilayer LEDs are discussed in terms of the band structure, bipolar transport and electron donor-acceptor interactions.

IT 168026-63-9

RL: PRP (Properties)  
 (electroluminescent properties of anthracene-containing polyimides)

RN 168026-63-9 CAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoxindole-2,5-diy)(3-oxo-1(3H)-isobenzofuranylidene)(1,3-dihydro-1,3-dioxo-2H-isoxindole-5,2-diy)-1,4-phenylene-9,10-anthracenediyl-1,4-phenylene] (9CI) (CA INDEX NAME)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*  
 RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 56 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2000-462275 CAPLUS  
 DN 134-116413  
 TI Electroluminescent properties of anthracene-containing polyimides

AU Mal'tsov, Eugene I.; Bruseniseva, Mariya A.; Berendynev, Vladimir I.; Kolesnikov, Vladislav A.; Kotov, Boris V.; Vannikov, Anatoly V.

CS Frunkin Institute of Electrochemistry, Russian Academy of Sciences, Moscow, Russia

SO Proceedings of SPIE-The International Society for Optical Engineering (1999), 3797(Organic Light-Emitting Materials and Devices III), 350-358

CODEN: PSIDG; ISSN: 0277-786X

PB SPIE-The International Society for Optical Engineering

DT Journal

LA English

AB The electroluminescence (EL) of donor-acceptor polyimides prepared from 9,10-bis(m-aminophenylthio)-anthracene (9PTA) and 1,3-bis(3,4-dicarboxyphenoxy)benzene or 2,2-bis(4-(3,4-dicarboxyphenoxy)phenyl)-propane dianhydrides was studied. The aromatic polyimides with and without sulfur atoms in the backbone, were evaluated as electron-hole transporting and light-emitting materials for use in single- and multilayer electroluminescent diodes. These polyimides are efficient electron and hole conductors and also exhibit intense photoluminescence of complex origin. Some of the polyimides have been used as hole conducting layers with tria(8-quinolinolato)aluminum complex (Alq3) as electron conducting layer in bilayer LEDs of high brightness. A direct correlation was revealed between transport characteristics and electroluminescent properties of these electroactive materials. At room temperature, the electron mobility and hole drift mobility directly measured by conventional TOF techniques indicate effective bipolar transport. The simplicity of synthesis, high thermal stability, organic solvent solubility, and excellent film-forming ability make these polyimides good candidates for technical applications. The band structure, bipolar transport, and electron donor-acceptor interactions in test one-layer and bilayer LEDs based on the polyimides are described.

IT 168026-63-9

RL: PRP (Properties)  
 (band structure and electroluminescence and carrier transport of electroactive anthracene-containing polyimide-polythioethers vs. polyimides for LEDs)

RN 168026-63-9 CAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoxindole-2,5-diy)(3-oxo-1(3H)-isobenzofuranylidene)(1,3-dihydro-1,3-dioxo-2H-isoxindole-5,2-diy)-1,4-phenylene-9,10-anthracenediyl-1,4-phenylene] (9CI) (CA INDEX NAME)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*  
 RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 57 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2000-462255 CAPLUS  
 DN 133-273801

TI Organic light-emitting diodes using novel emitting amorphous molecular materials  
 AU Shirota, Yasuhiko; Noda, Tetsuya; Ogawa, Hirotsugu  
 CS Faculty of Eng., Dep. Appl. Chem., Osaka Univ., Suita Osaka, Japan  
 SO Proceedings of SPIE-The International Society for Optical Engineering (1999), 3797(Organic Light-Emitting Materials and Devices III), 158-169

CODEN: PSISDG; ISSN: 0277-786X

PB SPIE-The International Society for Optical Engineering

DT Journal

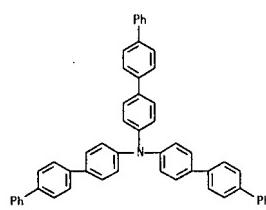
LA English

AB Recent results on the creation of novel emitting amorphous mol. materials and fabrication of blue or multi-color emitting organic light-emitting diodes (OLEDs) are described. Tri(p-terphenyl-4-yl)amine functions not only as a blue-emitting material with hole-transporting properties but also as a good host matrix for fluorescent dopants such as perylene. 5,5'-Bi[4-(4-methylphenyl)amino]biphenyl (27) and bis[4-(bis(4-methylphenyl)amino)biphenyl]- $\alpha$ -oligo(ether-phenylene) (RMA-nT ( $n$  is 1 to approx. 4)) are a good blue-emitting amorphous mol. material with electron-transporting properties and good multi-color emitting amorphous mol. materials with hole-transporting properties, resp., for OLEDs. Exciplex formation at the organic solid interface between the hole- and electron-transporting materials and its potential application for color tuning are also described.

IT 145693-79-4

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)  
 (organic light-emitting diodes using novel emitting amorphous mol. materials)

RN 145693-79-4 CAPLUS  
 CN {1,1':4',1''-terphenyl}-4-amine, N,N-bis([1,1':4',1''-terphenyl]-4-yl)- (9CI) (CA INDEX NAME)



RE.CNT 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 58 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2000-457176 CAPLUS  
 DN 133-81385

TI Organic electroluminescent devices  
 IN Hosokawa, Chishio; Funehashi, Masakazu; Kawamura, Hisayuki; Arai, Hiromasa; Koga, Midotoshi; Ikeda, Hidetsugu  
 PA Idemitsu Kosan Co., Ltd., Japan  
 SO PCT Int. Appl., 167 pp.  
 CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE

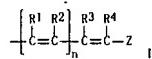
| PI | WO 2000039247   | A1 | 20000706 | WO 1999-JP7390   | 19991228 <- |
|----|---|----|----------|------------------|-------------|
|    | W: CN, KR, US,<br>RW: AT, BE, CH,<br>CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,<br>SE, SI, SK, TR, AL  |    |          |                  |             |
|    | JP 20010223   | A  | 20010223 | JP 1999-223056   | 19990805 <- |
|    | JP 2001131541   | A  | 20010515 | JP 1999-247848   | 19991207 <- |
|    | EP 1061112  | A1 | 20001220 | EP 1999-961465   | 19991228 <- |
|    | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, SE, MC, PT,<br>IE, FI  |    |          |                  |             |
|    | CN 1721499  | A  | 20060118 | CN 2005-10084528 | 19991228    |
|    | EP 1666561  | A1 | 20060607 | EP 2006-110875   | 19991228    |
|    | R: DE, FR, GB   |    |          |                  |             |
|    | EP 1775335  | A2 | 20070418 | EP 2007-100259   | 19991228    |
|    | R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,<br>IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RD, SE, SI, SK, TR, AL,<br>BA, HR, MK, YU |    |          |                  |             |
|    | US 6743948  | B1 | 20040601 | US 2000-623057   | 20000825    |
|    | US 2003-72966   | A1 | 20030826 | US 2002-179179   | 20020626 <- |
|    | US 6511693  | B2 | 20051094 |                  |             |
|    | US 20005038296  | A1 | 20050217 | US 2004-B14121   | 20040401    |
|    | US 2006189928   | A1 | 20060824 | US 2006-344604   | 20060201    |
|    | US 2007142671   | A1 | 20070621 | US 2007-624255   | 20070118    |

PRM1 JP 1998-373921  
 A 19981228  
 JP 1999-140103 A 19990520  
 JP 1999-223056 A 19990805  
 JP 1999-234652 A 19990820  
 JP 1999-347848 A 19991207  
 CN 1999-B03419 A3 19991228  
 EP 1999-961465 A3 19991228  
 WO 1999-JP7390 W 19991228  
 US 2000-623057 A 20000825  
 US 2004-B14121 B1 20040401  
 US 2006-344604 B1 20060201

OS MANPAT 133-81385

G1

(Y<sup>4</sup>)<sub>d</sub> - X<sup>4</sup> > N - A - N > X<sup>1</sup> - (Y<sup>1</sup>)<sub>a</sub>  
 (Y<sup>3</sup>)<sub>c</sub> - X<sup>3</sup> > N - A - N > X<sup>2</sup> - (Y<sup>2</sup>)<sub>b</sub> - I



L5 ANSWER 58 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

AB The devices having a high luminescent efficiency, a long life and a high heat resistance comprise I (A = (substituted) C22-60 arylene; X<sup>1-4</sup> = (substituted) C6-30 arylene; Y<sup>1-4</sup> = I; a-d = 0-2; R<sup>1-4</sup> = H, (substituted) alkyl, (substituted) aryl, cyano; R<sup>3</sup> may be bonded to R<sup>4</sup> to form a triple bond; Z = (substituted) aryl; n = 0, 1).

IT 279672-13-8 279672-15-5 279672-17-2

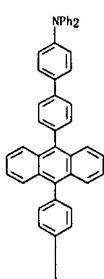
279672-19-4 279672-20-7 279672-47-8

279672-48-9

RL: DEV (Device component use); USES (Uses)  
 (organic electroluminescent devices)

RN 279672-13-8 CAPLUS

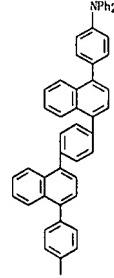
CN [1,1'-Bi(phenyl)-4-amine, 4',4''-(9,10-anthracenediyl)bis[N,N-diphenyl]- (9CI) (CA INDEX NAME)



PAGE 1-A

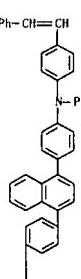
L5 ANSWER 58 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A



PAGE 2-A

RN 279672-17-2 CAPLUS  
 CN [1-Naphthalenamine, N-phenyl-N-[4-(2-phenylethenyl)phenyl]-4-[4-[4-[phenyl][4-(2-phenylethenyl)phenyl]amino]phenyl]-1-naphthalenyl]phenyl]- (9CI) (CA INDEX NAME)



PAGE 1-A

RN 279672-15-0 CAPLUS  
 CN Benzenamine, 4,4'-(1,4-phenylenedi-4,1-naphthalenediyl)bis[N,N-diphenyl]- (9CI) (CA INDEX NAME)

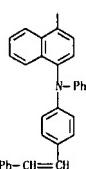


PAGE 2-A

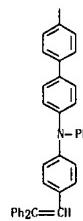
L5 ANSWER 58 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

L5 ANSWER 58 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 2-A



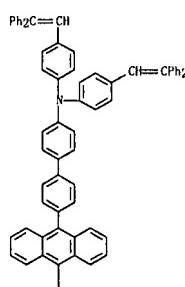
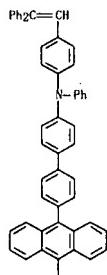
PAGE 2-A



RN 279672-19-4 CAPLUS  
 CN [1,1'-Biphenyl]-4-amine, 4',4'''-(9,10-anthracenediyl)bis[N-[4-(2,2-diphenylethenyl)phenyl]- (9CI) (CA INDEX NAME)

RN 279672-20-7 CAPLUS  
 CN [1,1'-Biphenyl]-4-amine, 4',4'''-(9,10-anthracenediyl)bis[N,N-bis(4-(2,2-diphenylethenyl)phenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

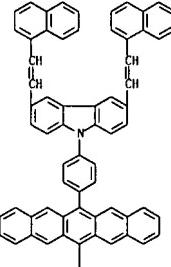
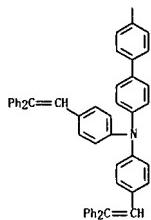


PAGE 1-A

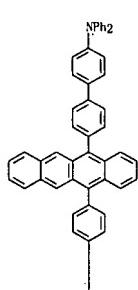
L5 ANSWER 58 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

L5 ANSWER 58 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A



RN 279672-47-8 CAPLUS  
 CN [1,1'-Biphenyl]-4-amine, 4',4'''-(5,12-naphthacenediyl)bis[N,N-diphenyl]- (9CI) (CA INDEX NAME)



PAGE 1-A

PAGE 2-A



RE. CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

PAGE 2-A



RN 279672-48-9 CAPLUS  
 Benzenamine, 4-[13-[4-[3,6-bis[2-(1-naphthalenyl)ethenyl]-9H-carbazol-9-yl]phenyl]-6-pentaacyl-N,N-diphenyl- (9CI) (CA INDEX NAME)

L5 ANSWER 59 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1999:783350 CAPLUS  
 DN 132:29694

TI Manufacture of surface-conducting type electron-emitting device, and image-forming device and its fabrication  
 IN Iwaki, Takashi  
 PA Canon K. K., Japan  
 SO Jpn. Kokai Tokkyo Koho, 19 pp.  
 CODEN: JKXXXAF

DT Patent  
 LA Japanese

FAN CNT 1

| PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE        |
|----------------|------|----------|-----------------|-------------|
| JP 111339640   | A    | 19991210 | JP 1998-145870  | 19980527 -- |
| JP 1998-145870 | A    | 19980527 |                 |             |

AB The electron-emitting device comprising an elec. conductive thin formed between a pair of electrodes, and an electron-emitting part at a part of the conductive thin film is manufactured by (1) forming a multilayered organic film containing a polyimide on the electron-emitting part, and (2) applying a voltage onto the electrodes to carbonize the organic film. An image-forming apparatus comprises a power source containing multiple electron-emitting devices above claimed, a light-emitting substance, and a driving circuit. In fabrication of the image-forming apparatus, the electron-emitting device is also manufactured by the claimed method. Each electron-emitting device shows uniform and stable electron emitting properties.

IT The electron-emitting device comprising an elec. conductive thin formed between a pair of electrodes, and an electron-emitting part at a part of the conductive thin film is manufactured by (1) forming a multilayered organic film containing a polyimide on the electron-emitting part, and (2) applying a voltage onto the electrodes to carbonize the organic film. An image-forming apparatus comprises a power source containing multiple electron-emitting devices above claimed, a light-emitting substance, and a driving circuit. In fabrication of the image-forming apparatus, the electron-emitting device is also manufactured by the claimed method. Each electron-emitting device shows uniform and stable electron emitting properties.

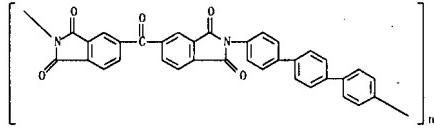
PRAI 83932-46-IP Benzophenonetetracarboxylic anhydride-1,4-bis(4-aminophenyl)benzene copolymer, sm CAPLUS

RL: PREP (Properties); SPA (Synthetic preparation); RCT (Reactant); PREP (Preparation); RACT (Reaction or reagent)

(formation and imidation of; manufacture of surface-conducting type electron-emitting device containing carbon as emitter formed by carbonization of polyimides and image-forming device)

RN 83932-46-IP CAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)carbonyl](1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)[1,1':4',1''-terphenyl]-4,4'-diyl] (9CI) (CA INDEX NAME)



L5 ANSWER 61 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1999:674555 CAPLUS  
 DN 132:64589

TI Soluble, UV-fluorescent polyamides and polyimides containing oligophenyls in the main chain and highly phenylated side groups

AU Mikroyannidis, John A.  
 CS Chemical Technology Lab., Dep. Chemistry, Univ. Patras, Patras, 26500, Greece

SO Macromolecular Chemistry and Physics (1999). 200(10), 2327-2337  
 CODEN: MCMPES; ISSN: 1022-1352

PR Wiley-VCH Verlag GmbH

Journal

LA English

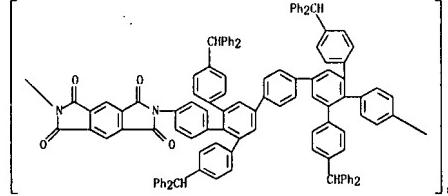
AB Starting from pyrrolium salts 4 new aromatic diamines were synthesized and used for the preparation of rigid-rod polyamides and polyimides. The polymers contain pterphenyl or p-quinquephenyl moieties in the backbone and pendent groups, which consist of 1,3,5-triphenylbenzene or triphenylmethane segments. Most of the polymers show excellent solubility in various common solvents and even in 1,1,2,2-tetrachloroethane. Polyamides with pendent groups of triphenylmethane possess enhanced hydrophilicity. The solns. of all polymers in DMF show UV-fluorescence with emission maxima in the range of 350-367 nm. The polymers are amorphous and their Tg. values range from 250-310°. They display an outstanding thermal stability, i.e., are stable up to 366-411° and afford char yields of 64-81% at 800° in N2.

IT 252977-11-0P 252977-13-2P

RL: PRP (Properties); SPA (Synthetic preparation); PREP (Preparation)  
 (formation and properties of soluble UV-fluorescent polyamides and polyimides containing oligophenyl main and phenylated side groups)

RN 252977-11-0 CAPLUS

CN Poly[(5,7-dihydro-1,3,5,7-tetraoxobenz[1,2-c:4,5-c']dipyrrole-2,6(H,3H)-diyl][2',3',5'',6''-tetraakis(4-(diphenylmethyl)phenyl)[1,1':4',1'':4'',1'''-quinqephenyl]-4,4''-diyl]] (9CI) (CA INDEX NAME)



RN 252977-13-2 CAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)carbonyl](1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)[2',3',5'',6''-tetraakis(4-(diphenylmethyl)phenyl)[1,1':4',1'':4'',1'''-quinqephenyl]-4,4''-diyl]] (9CI) (CA INDEX NAME)

L5 ANSWER 60 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1999:756830 CAPLUS  
 DN 132:7426

TI Multilayer organic electroluminescent devices using carbazole derivatives and their manufacture

IN Nakaya, Tadao; Yamuchi, Takaaki; Konishi, Takanori  
 PA Taiho Kogyo Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 32 pp.  
 CODEN: JKXXXAF

DT Patent  
 LA Japanese

FAN CNT 1

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE        |
|---------------|------|----------|-----------------|-------------|
| JP 111329737  | A    | 19991130 | JP 1998-260328  | 19980914 -- |
| JP 1998-63370 | A    | 19980313 |                 |             |

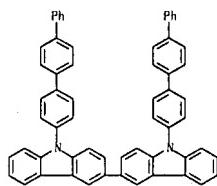
AB The devices have hole-transporting layers containing compds. having 9-carbazoyl groups. Preparation methods of the carbazole derivs. by using (A) biphenyl, (B) 4,4'-diiodobiphenyl, (C) 4-iodoniline, (D) carbazole, or (E) 4-iodoacetophenone as starting materials are claimed. The devices show improved lifetime and high luminance.

IT 251316-80-OP

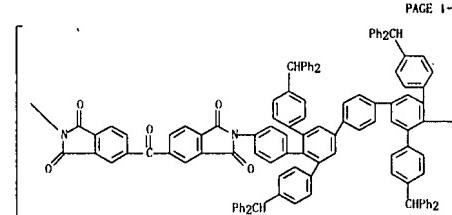
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)  
 (manufacture of carbazole derivs. for hole-transporting layers of multilayer electroluminescent devices)

RN 251316-80-OP CAPLUS

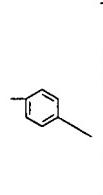
CN 5,5'-Bi-9H-carbazole, 9,9'-bis([1,1':4',1''-terphenyl]-4-yl)- (9CI) (CA INDEX NAME)



L5 ANSWER 61 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 PAGE I-A



PAGE I-B



RE. CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 62 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1999:678514 CAPLUS  
DN 132:2586

TI New Polyimides for Gas Separation. I. Polyimides Derived from Substituted Terphthalonitriles and 4,4'-(Hexafluoroisopropylidene)diphtalic Anhydride  
AU Al-Mari, Maadi; Kricheldorf, Hans R.; Fritsch, Detlev  
CS GKSS Forschungszentrum Geesthacht, D-21502, Germany  
SO Macromolecules (1999), 32(23), 7853-7858  
CODEN: MAMOBX; ISSN: 0024-9297  
PB American Chemical Society  
DT Journal  
LA English  
AB Five new methyl-substituted diaminoterphenyls were prepared by Pd-catalyzed coupling of bisboronic acids and bromomorphans. The Me groups are introduced to hinder rotations around the aromatic rings and to create a large free volume. These diamines were polycondensed with 4,4'-(hexafluoroisopropylidene)diphthalic anhydride (GFDA), and the imidization of the resulting polyamic acids was chemical completed by treating with Ac2O and Et3N. The permeabilities and apparent diffusion coeffs. of the pure gases He, H2, N2, O2, CO2, and CH4 were measured in a time-lag apparatus at feed pressures below 1 bar. Apparent solubility coeffs. and some selectivities for gases were calculated, and these data were discussed in the light of polyimides with comparable structures.

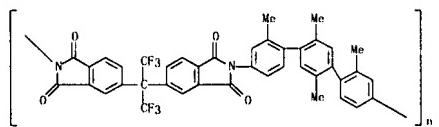
IT 251480-48-5P 251480-49-6P 251480-50-9P

RL: RCT (Reactant); SPA (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(polyimides derived from substituted terphenylenes and (hexafluoroisopropylidene)diphtalic anhydride for gas separation)

RN 251480-48-5 CAPLUS

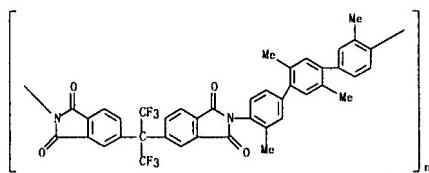
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diy)(2,2,2-trifluoro-1-(trifluoromethyl)ethylidene)(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diy)(2,2',2'',5''-tetramethyl[1,1':4',1''-terphenyl]-4,4'-diyl)] (9CI) (CA INDEX NAME)



RN 251480-49-6 CAPLUS

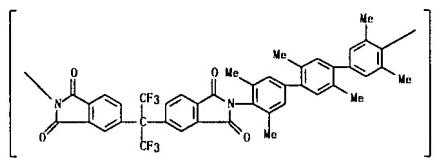
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diy)(2,2,2-trifluoro-1-(trifluoromethyl)ethylidene)(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diy)(2,2',2'',5''-tetramethyl[1,1':4',1''-terphenyl]-4,4'-diyl)] (9CI) (CA INDEX NAME)

L5 ANSWER 62 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 251480-50-9 CAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diy)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diy)(2',3',3'',5',5'',5'''-hexamethyl[1,1':4',1''-terphenyl]-4,4'-diyl)] (9CI) (CA INDEX NAME)



RE. CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

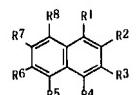
L5 ANSWER 63 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1999:638516 CAPLUS  
DN 131:250224

TI Organic electroluminescent material for electroluminescent device  
IN Tamano, Michiko; Okutsu, Satoshi; Onikubo, Shunichi; Maki, Shinichiro; Enokida, Toshiro

PA Toyo Ink Mfg. Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 14 pp.  
CODEN: JKXXAF

DT Patent  
LA Japanese  
FAN, CNT 1

| PATENT NO.           | KIND | DATE     | APPLICATION NO. | DATE        |
|----------------------|------|----------|-----------------|-------------|
| P1 JP 11273860       | A    | 19991008 | JP 1998-73762   | 19980323 -- |
| PRAI JP 1998-73762   |      | 19980323 |                 |             |
| DS MARPAT 131:250224 |      |          |                 |             |



AB An organic electroluminescent material, suited for use in making a stable electroluminescent device, is aminonaphthalene derivative represented by I [R1-R8 = H, halo, alkyl, alkoxy, aryloxy, alkylthio, aryl, and -NR9R10 (R9,10 = alkyl or aryl group; may be linked together); 22 groups of R1-R8 are -NR9R10].

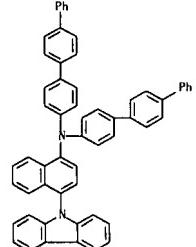
IT 244280-96-4

RL: DEV (Device component use); USES (Uses)  
(organic electroluminescent material for electroluminescent device)

RN 244280-96-4 CAPLUS

CN 1-Naphthalenamine, 4-(9H-carbazol-9-yl)-N,N-bis([1,1':4',1''-terphenyl]-4-yl) (9CI) (CA INDEX NAME)

L5 ANSWER 63 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

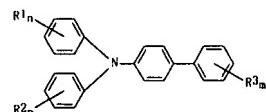


I5 ANSWER 64 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1999-427030 CAPLUS  
 DN 131-1088773

TI Electrophotographic photoreceptor containing biphenyl compound and process  
 cartridges and electrophotographic apparatus containing it  
 IN Konamaru, Tetsuo; Kikuchi, Norihiro; Nakata, Koichi  
 PA Canon K. K., Japan; Canon Inc.  
 SO Jon. Kokai Tokkyo Koho, 12 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese

FAN. CNT 1  
 PATENT NO. KIND DATE APPLICATION NO. DATE  
 PI JP 11184108 A 19990709 JP 1997-357631 19971225 <--  
 JP 3669546 B2 20050831  
 PRAI JP 1997-357631 19971225  
 OS MARPAT 131:108877  
 GI



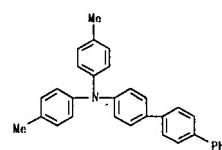
AB The photoreceptor has a photosensitive layer containing a biphenyl compound I (R1=3 = (substituted) alkyl, alkoxy, aryl; n, p, m = 0-2; n = p = m = 0) and a compound showing the maximum absorption wavelength 380-480 nm. The process cartridge, which is removable from an electrophotog. apparatus has 21 parts. Some parts from the photoreceptor are charge-transferring agents, developing means, and a cleaning means. The electrophotog. apparatus has the above electrophotog. photoreceptor, a charging unit, an imagewise exposure unit, a developing unit, and a transfer unit. The photoreceptor shows high sensitivity and improved durability in repeated use.

IT 130965-29-6

RL: DEV (Device component use); USES (Uses)  
 (charge-transferring agent; electrophotog. photoreceptor containing biphenyl derivative charge-transferring agent and orange-yellow pigment additive with sp. maximum absorption wavelength)

RN 130965-29-6 CAPLUS  
 CN [1,1':4',1''-Terphenyl]-4-amine, N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

I5 ANSWER 64 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

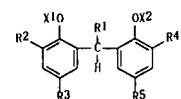


I5 ANSWER 65 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1999-344923 CAPLUS  
 DN 130-359253

TI Electrophotographic photosensitive member  
 IN Saito, Kazumi; Miyazaki, Hajime; Ohmori, Hiroyuki; Nagasaka, Hideaki  
 PA Canon Kabushiki Kaisha, Japan  
 SO Eur. Pat. Appl., 59 pp.  
 CODEN: EPXXDW

DT Patent  
 LA English

FAN. CNT 1  
 PATENT NO. KIND DATE APPLICATION NO. DATE  
 PI EP 918259 A2 19990526 EP 1998-402717 19981030 <--  
 EP 918259 A3 19991013  
 EP 918259 B1 20041222  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, I.I., LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI  
 SC 7765-29-6 A1 20010116 SC 1998-4276 19981030 <--  
 CN 1218202 A 19990602 CN 1998-122654 19981030 <--  
 JP 11202509 A 19990730 JP 1998-310566 19981030 <--  
 JP 3768701 R2 20060419  
 PRAI JP 1997-314677 A 19971031  
 JP 1997-314678 A 19971031  
 OS MARPAT 130:359253  
 GI



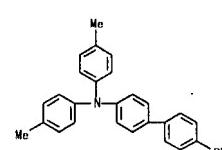
AB An electrophotog. photosensitive member comprises a support and a photosensitive layer provided on the support. The photosensitive layer contains a compound which is represented by the formula I wherein R1 represents an alkyl group or an alkenyl group, R2-5 are the same or different and each represents a hydrogen atom, an alkyl group or an alkenyl group, and X1 and X2 are the same or different and each represents a hydrogen atom, an alkyl group, an alkenyl group or an acryloyl group, provided that X1 and X2 are not hydrogen atoms at the same time.

IT 130965-29-6

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)  
 (electrophotog. photoreceptors with photosensitive layers containing)

RN 130965-29-6 CAPLUS  
 CN [1,1':4',1''-Terphenyl]-4-amine, N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

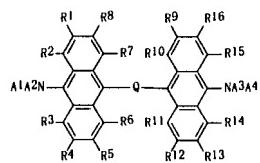
I5 ANSWER 65 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L5 ANSWER 66 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1999:260963 CAPLUS  
 DN 130:330444

TT Organic electroluminescent material containing anthracene derivative and organic electroluminescent device with it  
 IN Okutsu, Satoshi; Tamano, Michiko; Onikubo, Shunichi; Maki, Shinichiro; Enokida, Toshiro  
 PA Toyo Ink Mfg. Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 28 Spec.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN, CNT 1

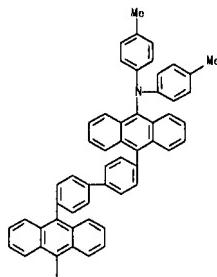
| PATENT NO.           | KIND | DATE     | APPLICATION NO. | DATE         |
|----------------------|------|----------|-----------------|--------------|
| JP 11111460          | A    | 19990423 | JP 1997-271824  | 19971006 <-- |
| JP 3633236           | B2   | 20050330 |                 |              |
| PRAI JP 1997-271824  |      | 19971006 |                 |              |
| OS MARPAT 130:330444 |      |          |                 |              |
| G1                   |      |          |                 |              |



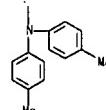
AB The material comprises an anthracene derivative having a formula I (A1-A4 = alkyl, monocyclic group, condensed polycyclic; R1-R16 = H, halogen, cyano, N02, alkyl, alkoxy, aryloxy, alkylthio, monocyclic group, condensed polycyclic; A12: A1 and A2 and A3 and A4 may bond to form a ring; Q = divalent group). The device contains a pair of electrodes sandwiching a light-emitting layer-containing organic compound plural thin films containing the material. The device shows high luminance with efficiency and long life.  
 IT 223726-76-9  
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)  
 (organic electroluminescent device containing anthracene derivative)  
 RN 223726-76-9 CAPLUS  
 CN 9-Anthracenamine, 10,10'-(1,1'-biphenyl)-4,4'-diylbis[N,N-bis(4-methylphenyl)-] (9CI) (CA INDEX NAME)

L5 ANSWER 66 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 RN 223726-76-9 CAPLUS  
 CN 9-Anthracenamine, 10,10'-(1,1'-biphenyl)-4,4'-diylbis[N,N-bis(4-methylphenyl)-] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

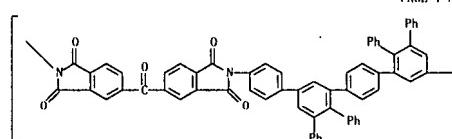


L5 ANSWER 67 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1999:171515 CAPLUS  
 DN 130:282432

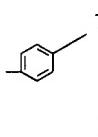
TI Wholly aromatic polyamides and polyimides prepared from 3,3'-'di(4-aminophenyl)-5,5'-'di(4-biphenyl)-p-terphenyl and 3,3'-'di(4-aminophenyl)-5,5'-'6,6'-'tetraphenyl-p-terphenyl  
 AU Mikroyannidis, John A.  
 CS Chemical Technology Laboratory, Department of Chemistry, University of Patras, Patras, GR-26500, Greece  
 SO Polymer (1999), 40(11), 3107-3117  
 CODEN: POLMAG; ISSN: 0032-3861  
 PB Elsevier Science Ltd.  
 DT Journal  
 LA English  
 AB 3,3'-'Bis(4-aminophenyl)-5,5'-'bis(4-biphenyl)-p-terphenyl and 3,3'-'bis(4-aminophenyl)-5,5'-'6,6'-'tetraphenyl-p-terphenyl as well as the corresponding acid chlorides were synthesized through pyrrolidine salts. The polyamides and polyimides prepared from them were characterized by inherent viscosity, elemental analyses, FTIR, UV-visible, <sup>1</sup>H-NMR, <sup>13</sup>C-NMR, and X-ray diffraction spectroscopy, DSC, TMA, TGA, isothermal gravimetric anal., and moisture absorption. The polymers were amorphous and dissolved in polar aprotic solvents and CC13CO2H. They did not melt and their  $\text{tg}$  values ranged from 212 to 305°C. No weight loss was observed up to 357-386°C in air and the anaerobic char yields were 61-75% at 800°C.  
 IT 222958-46-5P 222958-48-7P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (preparation of aromatic polyimides from terphenyl-based monomers)  
 RN 222958-46-5 CAPLUS  
 CN Poly[5,7-dihydro-[1,3,5,7-tetraoxobenzol[1,2-c:4,5-c']dipyrrole-2,6(1H,3H)-diyl](4',5',5"-'6,6'-'tetraphenyl[1,1':3',3":4',4":3'',1''-quinquephenyl]-4,4'-'-diyl)] (9CI) (CA INDEX NAME)

L5 ANSWER 67 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 RN 222958-48-7 CAPLUS  
 CN Poly[5,7-dihydro-[1,3-dioxo-2H-isindole-2,5-diyl]carbonyl(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)(4',5',5"-'6,6'-'tetraphenyl[1,1':3',3":4',4":1''-3'',1'''-quinquephenyl]-4,4'-'-diyl)] (9CI) (CA INDEX NAME)

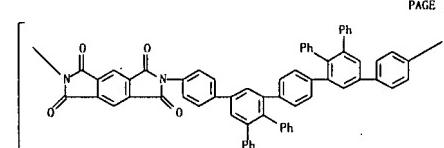
PAGE 1-A



PAGE 1-B



RE. CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT



PAGE 1-A

]

PAGE 1-B

L5 ANSWER 68 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1999:157136 CAPLUS

DN 130:244425

TI Electrophotographic photoreceptor using specific two types of charge-transporting materials  
IN Kurimoto, Eiji; Umeda, Minoru; Ikegami, Takaaki; Sakon, Yota  
PA Ricoh Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 384 pp.

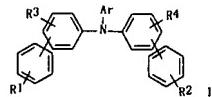
CODEN: JKXXAF

DT Patent

LA Japanese

FAN CNT 1

| PATENT NO.          | KIND | DATE     | APPLICATION NO. | DATE         |
|---------------------|------|----------|-----------------|--------------|
| PI JP 11065140      | A    | 19990305 | JP 1997-239555  | 19970815 <-- |
| PRAI JP 1997-239555 |      |          |                 |              |
| GI                  |      |          |                 |              |



AB The title photoreceptor comprises a conductive support coated with a photosensitive layer containing a compound I [R<sub>1</sub>, R<sub>2</sub> = H, amino, (substituted) dialkylamino, alkoxy, thioalkoxy, aryloxy, (substituted) alkyl, halo, (substituted) aryl; R<sub>3</sub>, R<sub>4</sub> = H, alkoxy, (substituted) alkyl, halo; Ar = (substituted) monocyclic aromatic hydrocarbon; (substituted) condensed polycyclic aromatic hydrocarbon; (substituted) heterocycle] and a compound [A(=CH<sub>2</sub>)C(=O)H<sub>2</sub>(CH<sub>2</sub>)<sub>m</sub>] [1]; A = 9-anthryl, (substituted) N-substituted carbonyl, N-substituted phenothiazinyl, ArNR<sub>2</sub> [Ar = (substituted) arylene; R<sub>1</sub>, R<sub>2</sub> = (substituted) alkyl], (substituted) aralkyl, (substituted) aryl; R = H, (substituted) alkyl, (substituted) aralkyl, (substituted) aryl; m = 2-8; n = 0 or 1]. 22 Types of compds. may be used instead of I and II. The photoreceptor shows high photosensitivity, stable charging properties, and improved durability in repeated use.

IT 221307-83-1

RL: DEV (Device component use); USES (Uses)  
(electrophotog. photoreceptor containing two-types of charge-transporting agents)

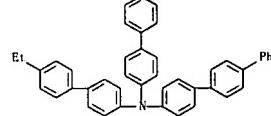
RN 221307-83-1, CAPLUS

CN [1,1':4',1"-Terphenyl]-4-amine, N,N-bis(4'-ethyl[1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)

L5 ANSWER 68 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

AN 1999:67390 CAPLUS

DN 130:210044



L5 ANSWER 69 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1999:74519 CAPLUS

DN 130:160734

TI Process for manufacture of electron emitter and electron source for image forming device  
IN Iwaoi, Takashi

PA Canon K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 25 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN CNT 1

| PATENT NO.          | KIND | DATE     | APPLICATION NO. | DATE         |
|---------------------|------|----------|-----------------|--------------|
| PI JP 11025850      | A    | 19990129 | JP 1997-174031  | 19970630 <-- |
| PRAI JP 1997-174031 |      | 19970630 |                 |              |
| AB                  |      |          |                 |              |

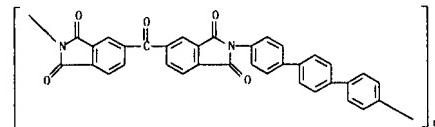
The process for manufacture of emitter, which has a conductive film and a polyimide film on a substrate, comprises the steps of: (1) forming a crevassae on the conductive film; (2) forming the polyamide acid layer on the crevassae; (3) converting the polyamide acid film to polyimide film by heating; and (4) charring near the crevassae by applying an elec. field to form an electron emitting part. The each electron emitters on an array shows same electron characteristics to form a high quality image.

IT 83932-46-1

RL: TEM (Technical or engineered material use); USES (Uses)  
(process of manufacture of electron emitter and electron source for image forming device)

RN 83932-46-1, CAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoxindole-2,5-diyl)carbonyl(1,3-dihydro-1,3-dioxo-2H-isoxindole-5,2-diyl)[1,1':4',1"-terphenyl]-4,4"-diyl] (9CI) (CA INDEX NAME)



L5 ANSWER 70 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1999:67390 CAPLUS

DN 130:210044

TI Synthesis and characterization of novel aromatic polyimides from 1,4-bis(4-aminophenyl)-2,3-diphenylnaphthalene and aromatic tetracarboxylic dianhydrides

AU Morikawa, Atsushi; Hatakeyama, Tadashi

CS Department of Materials Science, Faculty of Engineering, Ibaraki University, Ibaraki, 316-8511, Japan

SO Polymer Journal (Tokyo) (1999), 31(1), 76-78

CODEN: POLJBS; ISSN: 0032-3896

PB Society of Polymer Science, Japan

DT Journal

LA English

AB New aromatic polyimides containing a tetraphenylnaphthalene unit were synthesized from 1,4-bis(4-aminophenyl)-2,3-diphenylnaphthalene and 5 different aromatic tetracarboxylic dianhydrides by the conventional two-step procedure that included ring-opening polyaddn. in a polar amide-type solvent and subsequent thermal cyclic dehydration. These polyimides had inherent viscosities of 0.58-1.01 dl. g<sup>-1</sup> and some polyimides were readily soluble in a wide range of organic solvents such as N,N-dimethylacetamide, N-methyl-2-pyrrolidone, pyridine, and m-cresol on heating. The glass transition temperature of the polyimides ranged from 306 to 375°C. and 10% weight loss temperatures were 450-580°C. in air.

IT 220917-10-2P 220917-12-4P 220917-14-6P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(synthesis of polyimides from bis(aminophenyl)diphenylnaphthalene and aromatic dianhydrides)

RN 220917-10-2, CAPLUS

CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetramethoxy[5,5'-bi-2H-isoxindole]-2,2'-diyl)-1,4-phenylene] (9CI) (CA INDEX NAME)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

RN 220917-12-4, CAPLUS  
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoxindole-2,5-diyl)carbonyl(1,3-dihydro-1,3-dioxo-2H-isoxindole-5,2-diyl)-1,4-phenylene] (9CI) (CA INDEX NAME)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

RN 220917-14-6, CAPLUS  
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoxindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isoxindole-5,2-diyl)-1,4-phenylene] (9CI) (CA INDEX NAME)

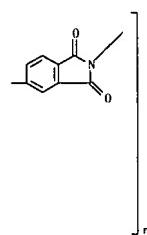


L5 ANSWER 72 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
PAGE 1-B



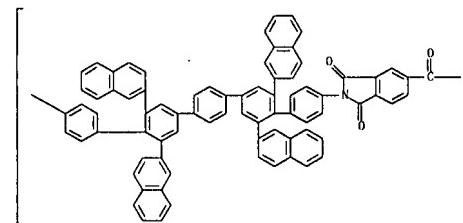
RN 219834-77-2 CAPLUS  
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diy)carbonyl(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diy)(2',5',5'',6''-tetra-2-naphthalenyl)[1,1',4',4'',1'',4'',1'',4'',-quinquephenyl]-4,4'''-diy)] (9CI) (CA INDEX NAME)

L5 ANSWER 72 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
PAGE 1-B



RE. CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

PAGE 1-A



L5 ANSWER 73 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
RN 1098-711425 CAPLUS

TI Charge carrier transport in polyimides based on 9,10-bis(p-anisophenyl)anthracene

AU Tameev, Alek R.; Kozlov, Aleksey A.; Vannikov, Anatoly V.; Lunina, Elena V.; Barendyaev, Vladimir I.; Kotov, Boris V.

CS A. N. Frumkin Institute of Electrochemistry of the Russian Academy of Sciences, Moscow, 117071, Russia

SO Polymer International (1998), 47(2), 198-202

CODEN: PLVIEI; ISSN: 0959-8103

PB John Wiley & Sons Ltd.

DT Journal

LA English

AB Transient currents were measured by the time-of-flight technique in films of aromatic polyimides based on 9,10-bis(p-anisophenyl)anthracene and a series of diimide fragments. The elec. field and temperature dependences of the hole and electron drift mobilities were detected. In amorphous films of the soluble polyimide with a phthalide group in the diimide fragment, the drift mobility was found to reach the value of  $10^{-4}$  cm<sup>2</sup> V<sup>-1</sup> s<sup>-1</sup> at 5.5 + 105 V cm<sup>-1</sup> and 291 K. In the insol. polyimide films including the crystalline phase, the mobility was lower by one or two orders of magnitude. This is attributed to the presence of cavities in the films of the insol. polyimides. The applicability of known theor. models describing temperature and elec. field dependences of the drift mobility is discussed.

IT 106725-35-3 106725-36-4 133030-08-7

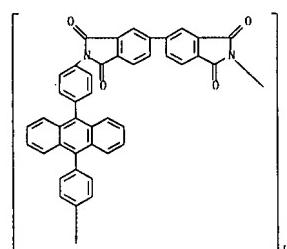
168026-63-9 202343-27-9

RL: PEP (Physical, engineering or chemical process); PRP (Properties);

PROC (Process) (charge carrier transport in polyimides based on 9,10-bis(p-anisophenyl)anthracene)

RN 106725-35-3 CAPLUS

CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isindole]-2,2'-diyl)-1,4-phenylene-9,10-anthracenediyl-1,4-phenylene] (9CI) (CA INDEX NAME)



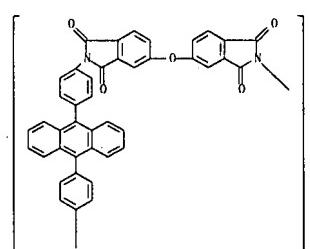
RN 106725-36-4 CAPLUS  
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diy)carbonyl(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diy)-1,4-phenylene-9,10-anthracenediyl-1,4-phenylene] (9CI) (CA INDEX NAME)

L5 ANSWER 73 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

RN 133030-08-7 CAPLUS  
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diy)oxy(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diy)-1,4-phenylene-9,10-anthracenediyl-1,4-phenylene] (9CI) (CA INDEX NAME)



RN 168026-63-9 CAPLUS  
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diy)(3-oxo-1(3H)-isobenzofuranylidene)(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diy)-1,4-phenylene-9,10-anthracenediyl-1,4-phenylene] (9CI) (CA INDEX NAME)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

RN 202343-27-9 CAPLUS  
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diy)sulfonyl(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diy)-1,4-phenylene-9,10-anthracenediyl-1,4-phenylene] (9CI) (CA INDEX NAME)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*  
RE. CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT



L5 ANSWER 76 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1998:397810 CAPLUS  
 DN 129-68171

TI Manufacture of polypyridinium salts useful as electric conductors  
 IN Harris, Frank; Chuang, Chun Hua K.  
 PA University of Akron, USA  
 SO U.S., 15 pp., Cont.-in-part of U. S. Ser. No. 967,246, abandoned.  
 CODEN: USXXAN

DT Patent  
 LA English  
 FAN CNT 1

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE        |
|---------------|------|----------|-----------------|-------------|
| PI US 5763563 | A    | 19980609 | US 1994-296807  | 19940819 <- |
| US 5863651    | A    | 19990126 | US 1998-90012   | 19980603 <- |

PRAI US 1989-402126 R2 19980901  
 US 1991-70159 R2 19910520  
 US 1992-967246 R2 19921027  
 US 1994-296807 A1 19940819

AB A new class of pyrylium salts and process for the manufacture, as well as the use of the new pyrylium salts as polycondensation components for a new class of polypyridinium salts and a new class of conducting polypyridinium salts manufactured by doping the polypyridinium salts with a conducting dopant is described. The new polypyridinium salts and their conducting dopant analogs according to this invention are stable poly charged polymers resistant to base attack and are distinguished by water insolv., making them ideally suited as a metal anti-corrosion coating, stable in basic media making them ideally suited for separation membranes for anions, and as excellent, thermally and chemically stable conducting polymers when doped ideally suited for making elec. conducting materials and as redox catalysts. A polymer was prepared by polymerization of 1,4-phenylenediamine and 4,4'-*p*-phenylene-bis(2,6-diphenylpyrylium)ditetrafluoroborate.

IT 122538-91-4P

RL: IMF (Industrial manufacture); PREP (Preparation)  
 (manufacture of polypyridinium salts useful as elec. conductors)

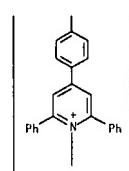
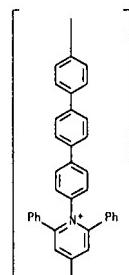
RN 122538-91-4 CAPLUS  
 CN Poly[1,(2,6-diphenylpyridinium-1,4-diyl)-1,4-phenylene(2,6-diphenylpyridinium-4,1-diyl){1,1':4,1''-terphenyl}-4,4''-diyl bis(tetrafluoroborate(-))](9Cl) (CA INDEX NAME)

CM 1

CRN 122538-90-3  
 CMF (CS8 H40 N2)n  
 CCI PMS

L5 ANSWER 76 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A



PAGE 2-A

CM 2

CRN 14874-70-5  
 CMF B F4  
 CCI CCS



RE. CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 76 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

L5 ANSWER 77 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1998:184308 CAPLUS

DN 128:250507

TI Triamine compound charge-transporting material for organic electroluminescent device  
 IN Kwonmura, Hisayuki; Nakamura, Hiroaki; Hosokawa, Chishio  
 PA Idemitsu Kosan Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 24 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

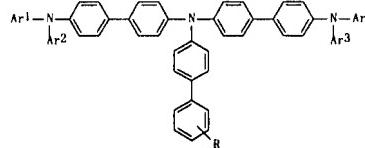
FAN CNT 1

| PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE        |
|----------------|------|----------|-----------------|-------------|
| PI JP 10077252 | A    | 19980324 | JP 1996-235367  | 19960905 <- |
| JP 3890104     | B2   | 20070214 |                 |             |

PRAI JP 1996-235367

OS MARPAT 128:250507

GI



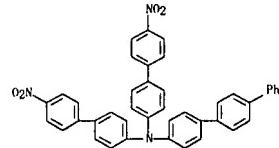
AB The triamine compound comprises I [Ar1-4 = (substituted) aryl with 6-18 nuclear C atoms; R = H, C1-6 alkyl or alkoxy, C6-14 aryl]. The triamine compound is also useful for electrophotog. photoconductors. An electroluminescent device using the triamine compound shows good luminescent stability under continuous operation and high heat resistance.

IT 204769-98-2P 204769-99-3P 204770-00-3P

RL: PNT (Preparation, unclassified); RCT (Reactant): PREP (Preparation): RACT (Reactant or reagent)  
 (triamine compound charge-transporting material for organic electroluminescent device)

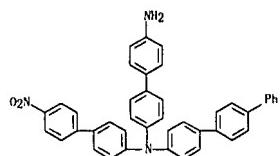
RN 204769-98-2 CAPLUS

CN [1,1':4,1''-Terphenyl]-4-amine, N,N-bis(4'-nitro[1,1'-biphenyl]-4-yl)-(9Cl) (CA INDEX NAME)

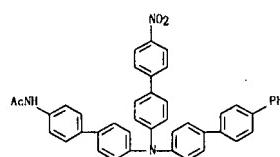


RN 204769-99-3 CAPLUS

L5 ANSWER 77 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 CN [1,1'-Biphenyl]-4,4'-diamine, N-(4'-nitro[1,1'-biphenyl]-4-yl)-N-[1,1':4',1''-terphenyl]- (9Cl) (CA INDEX NAME)

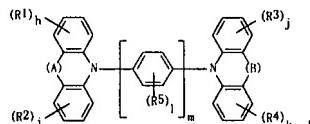


RN 204770-00-3 CAPLUS  
 CN Acetamide, N-[4'-(4'-nitro[1,1'-biphenyl]-4-yl)[1,1':4',1''-terphenyl]-4-ylamino][1,1'-biphenyl]- (9Cl) (CA INDEX NAME)



L5 ANSWER 78 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1998-143382 CAPLUS  
 DN 128-217287  
 TI Preparation of aromatic tertiary amines having benzazepine structures  
 IN Saito, Tadahisa  
 PA Fuji Photo Film Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 15 pp.  
 CODEN: JKXXAF

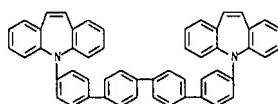
DT Patent  
 LA Japanese  
 FAN CNT 1  
 PATENT NO. KIND DATE APPLICATION NO. DATE  
 PI JP 10059943 A 19980303 JP 1996-235787 19960820 <-  
 JP 3798080 B2 20060719 US 5929235 A 19990727 19970819 <-  
 PRA1 JP 1996-235787 A 19960820  
 OS MARPAT 128-217287 G1



AB Title compds, I [A, B = (substituted) vinylene, o-arylene; R1-R4 = halo, (substituted) alkyl, aryl, alkoxy, acyloxy, dialkylamino, N-alkyl-N-arylamino, diarylamino; R5 = halo, (substituted) alkyl, alkoxy, dialkylamino; h-1 = 0-4; m = 1-6; if m ≥ 2, then R51 may be different in each benzene ring], useful as electrophotog. and electroluminescent materials (no data), are prepared. 5H-dibenz[b,f]azepine was treated with 4,4'-diiodobiphenyl in the presence of KOH and Cu in decalin at 200° for 28 h to give 9% I (A = B = vinylene, R1-R5 = absent, h-1 = 0, m = 2).

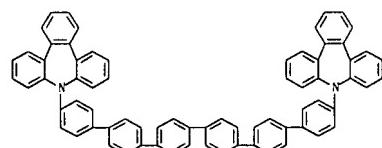
IT 204200-12-4P 204200-13-5P  
 RL: SPA (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

RN 204200-12-4 CAPLUS  
 CN 5H-Dibenz[b,f]azepine, 5,5'-(1,1':4',1''-4'',1'''-4''',1''''-diylbis- (9Cl) (CA INDEX NAME)



L5 ANSWER 78 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

RN 204200-13-5 CAPLUS  
 CN 9H-Tribenz[b,d,f]azepine, 9,9'-(1,1':4',1''-4'',1'''-4''',1''''-4''',1''''-soxiphonyl)-4,4''-diylbis- (9Cl) (CA INDEX NAME)



L5 ANSWER 79 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1998-116147 CAPLUS  
 DN 128-230924  
 TI Electroluminescence of anthracene-containing polyimides

AU Mal'tsev, Evgenii L.; Brusentseva, Maria A.; Berendyaev, Vladimir I.; Kolesnikov, Vlndislav A.; Lunina, Elena V.; Kotov, Boris V.; Vannikov, Anatolii V.

CS A.Franklin Institute of Electro-Chemistry, Russian Academy of Sciences, Moscow, 117071, Russia  
 SO Mendeleev Communications (1998), (1), 31-32  
 CODEN: MENCEX; ISSN: 0959-9436

PB Russian Academy of Sciences

DT Journal

LA English

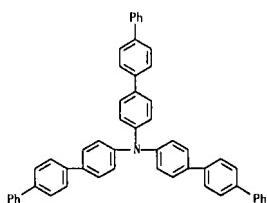
AB Electroluminescence has been revealed in a new class of electroactive polymers, the anthracene-containing aromatic polyimide derivs.: high thermal stability, ability to cast layers from solution and excellent film-forming properties make these materials of potential interest for technol. applications.

IT 168026-63-9  
 RL: PRP (Properties)  
 (electroluminescence of anthracene-containing polyimides)

RN 168026-63-9 CAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isooindole-2,5-diyl)(3-oxo-1(3H)-isobenzofuranylidene)(1,3-dihydro-1,3-dioxo-2H-isooindole-5,2-diyl)-1,4-phenylene-9,10-anthracenediyl-1,4-phenylene] (9Cl) (CA INDEX NAME)

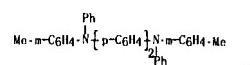
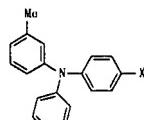
\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*  
 RE. CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 80 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1998:90685 CAPLUS  
DN 128:186304  
TI Organic light-emitting diodes using novel charge-transport materials  
AU Shirota, Yasuhiko  
CS Department Applied Chemistry, Faculty Engineering, Osaka University,  
Saita, Osaka, 565, Japan  
SO Proceedings of SPIE-The International Society for Optical Engineering (1997), 3148(Organic Light-Emitting Materials and Devices), 186-193  
CODEN: PSISDG; ISSN: 0277-786X  
PB SPIE-The International Society for Optical Engineering  
DT Journal  
LA English  
AB Several novel families of amorphous mol. materials with high glass-transition temps. ( $T_g$ ) that function as charge-transport or emitting materials for organic LEDs were designed and synthesized. Double-layer and multilayer devices using these novel amorphous mol. materials were fabricated and their performances studied. The use of the novel amorphous mol. materials with high  $T_g$ s enabled the fabrication of thermally stable organic LEDs; one of the devices was found to operate even at 170°C. The multilayer device consisting of double hole-transport layers and an emitting layer was found to enhance significantly the durability of the device. Exciplex formation at the organic/organic solid interface in organic LEDs also was studied.  
IT 145693-79-4  
RL: DEV (Device component use); USES (Uses)  
(organic light-emitting diodes using novel charge-transport materials)  
RN 145693-79-4 CAPLUS  
CN [1,1':4',1'']-Terphenyl]-4-amine, N,N-bis([1,1':4',1'']-terphenyl]-4-yl)-  
(9CI) (CA INDEX NAME)



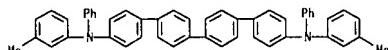
RE. CNT 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 81 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1998:59336 CAPLUS  
DN 128:127812  
TI Preparation of aromatic tertiary amines and their intermediates as materials for organic electroluminescent, electrophotographic, and optical recording materials  
AU Saito, Tadahisa  
PA Fuji Photo Film Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 44 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN, CNT 1  
PATENT NO. KIND DATE APPLICATION NO. DATE  
PI JP 10017531 A 19980120 JP 1996-176226 19960705 <>  
PRA1 JP 1996-176226 19960705  
OS CASREACT 128:127812: MARPAT 128:127812  
GI

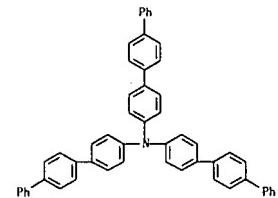


AB Compds. having  $\geq 2$  aromatic tertiary amines and  $\geq 1$  arom hydrocarbon ring assemblies are prepared by cross-coupling of C in aromatic groups using Pd catalysts. Iodide I ( $X = \text{I}$ ) (preparation given) was treated with aromatic boronic acid I ( $X = \text{B(OH)}_2$ ) (preparation given) in the presence of  $(\text{AcO})_2\text{Pd}(\text{2-MeC}_6\text{H}_4)_3\text{P}$  and Et<sub>3</sub>N in DMF at 100° for 2 h to give 75% aromatic tertiary amine II.  
IT 119429-17-3  
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)  
(Preparation of aromatic tertiary amines by cross-coupling of iodo aromatic amines with aromatic boronic acids using Pd catalysis)  
RN 119429-17-3 CAPLUS  
CN [1,1':4',1'']-Quaterphenyl]-4,4''-diamine, N,N'-bis(3-methoxyphenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)

L5 ANSWER 81 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L5 ANSWER 82 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1998:57729 CAPLUS  
DN 128:198154  
TI Tri(p-terphenyl)-4-ylamine as a novel blue-emitting material for organic electroluminescent devices  
AU Ogawa, Hironobu; Ohishi, Keisuke; Shirota, Yasuhiko  
CS Saita, Yamadaoka, Faculty of Engineering, Department of Applied Chemistry, Osaka University, Osaka, 565, Japan  
SO Synthetic Metals (1997), 91(1-3), 243-245  
CODEN: SYMEDZ; ISSN: 0379-6779  
PB Elsevier Science S.A.  
DT Journal  
LA English  
AB A novel amorphous mol. material, tri(p-terphenyl)-4-ylamine (p-TTA), was found to function as a morphol. and thermally stable blue-emitting material for organic electroluminescent (EL) devices. A double-layer EL device consisting of an emitting layer of p-TTA and a hole-transport layer of 1,3,5-tris[N-(4-diphenylaminophenyl)phenylamino]benzene sandwiched between an alloy of Mg and Ag (apprx. 10:1) and In-Sn-oxide (ITO) electrodes emitted bright blue light resulting from p-TTA. The EL device exhibited a maximum luminance of apprx. 350 cd m<sup>-2</sup> at a driving voltage of 13 V. The external quantum efficiency is 0.4.  
IT 145693-79-4  
RL: DEV (Device component use); PRP (Properties); USES (Uses)  
(tri(p-terphenyl)-4-ylamine as a novel blue-emitting material for organic electroluminescent devices)  
RN 145693-79-4 CAPLUS  
CN [1,1':4',1'']-Terphenyl]-4-amine, N,N-bis([1,1':4',1'']-terphenyl]-4-yl)-  
(9CI) (CA INDEX NAME)



RE. CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

- 5 ANSWER 93 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 9986:207899 CAPLUS  
 I28:14126E  
 TI Dependence of charge carrier mobility on the structure and method of preparation of polyimide films based on 9,10-bis-(*p*-aminophenyl)anthracene  
 AU Tsvetkov, A. R.; Koslov, A. A.; Berendyaev, V. I.; Lunina, E. V.; Kotov, B. V.; Vannikov, A. V.  
 C Inst. Elektrokhimii im. A. N. Frumkina, RAN, Moscow, Russia  
 S Zhurnal Nauchnoi i Tekhnicheskoi Fotografii (1997), 42(2), 38-44  
 CODEN: ZNPFEK; ISSN: 0869-6144  
 PB Nauka  
 DT Journal  
 LA Russian  
 AB Carrier drift mobility was investigated for 9,10-bis-(*p*-aminophenyl)anthracene-based polyimides using the time-of-flight method. Temperature and field dependences of electron and hole drift mobilities were determined. The applicability of various empirical and theor. models to interpretation of the obtained exptl. data is discussed.  
 IT 168026-63-9  
 RL: PRP (Properties)  
 (Dependence of charge carrier drift mobility on the structure and method of preparation of polyimide films based on bisaminophenylanthracene)  
 RN 168026-63-9 CAPLUS  
 C1 Poly[1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl](3-oxo-1(3H)-isobenzofuran-1-ylidene] (1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)-1,4-phenylene] (9CI) (C1) (CAN) (NAME)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

- \* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

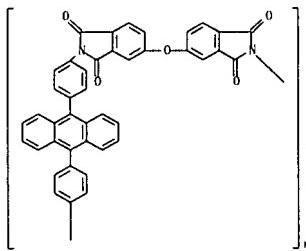
IT 106725-35-3 106725-36-4 133030-08-7  
 2023-08-01

RL: Poly (Properties)  
 (dependence of charge carrier drift mobility on the structure and method of preparation of polyimide films based on bisaminophenylanthracene)

RN 106725-35-3. CAPILIS

CN Poly[1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo-5,5'-bi-2H-isindole]-2,2'-diyl]-1,4-phenylene-9,10-anthracenediyl-1,4-phenylene] (9CI) (CA INDEX NAME)

1.5 ANSWER 83 OF 201 CAPIUS COPYRIGHT 2007 ACS on STN (Continued)



- RN 202343-27-9 CAPIUS  
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)sulfonyl(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)-1,4-phenylene-9,10-anthracenediyl]-1,4-phenylene] (9Cl) (CA INDEX NAME)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

- ANSWER 83 OF 201 CAPIUS COPYRIGHT 2007 ACS on STN (Continued)

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\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

- \* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

RN 133030-08-7 CAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isocindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isocindole-5,2-diyl)-1,4-phenylene-9,10-anthracenediyl-1,4-phenylene] (9CI) (CA INDEX NAME)

L5 ANSWER 84 OF 201 CAPIUS COPYRIGHT 2007 ACS on STN

- 1998:22074 CAPLUS  
 128:7557

**T1** Synthesis of Soluble, Blue-Light-Emitting Rigid-Rod Polyamides and Polyimides Prepared from 2',6',3',5'-Tetraphenyl- or Tetra(4-Biphenyl)-4,4'-diamino-p-quinquenaphenyl

**AU** Spiropoulos, Ioannis K.; Mikroyannidis, John A.

**CS** Chemical Technology Laboratory Department of Chemistry, University of Patras, Patras, GR-26110, Greece

**SO** Macromolecules (1998), 31 (2), 515-521

**CODEN** MAMOHR; ISSN: 0024-9297

**PB** American Chemical Society

**DT** Journal

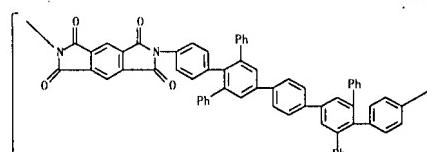
**LA** English

**AB** 2',6',3',5'-Tetraphenyl- or tetra(4-biphenyl)-4,4'-diamino-p-quinquenaphenyl were synthesized from the corresponding pyrrolium salts. Rigid-rod polyamides and polyimides containing Ph or 4-biphenyl side groups on the p-quinquenaphenyl segments of the backbone were then prepared. The polyamides were characterized by inherent viscosity, elemental anal.,  $^1\text{H-NMR}$ ,  $^{13}\text{C-NMR}$ , x-ray anal., differential scanning calorimetry, thermoechem. anal., thermogravimetric anal., isothermal gravimetric anal., and water uptake measurements. The polymers with 4-biphenyl pendant groups showed enhanced solubility, lower crystallinity and hydrophilicity, and higher thermal stability compared to polymers with Ph pendant groups. The polyimides displayed strong blue fluorescence in DMF solution. The polyamide containing 4-biphenyl pendant groups possessed a well-defined chromophore, resulting from steric interactions in the polymer chain.

**IT** 200551-50-4P 200551-52-6P, Pyromellitic

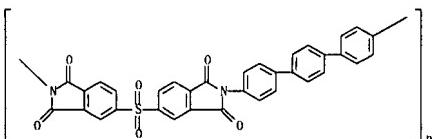


PAGE 1-A





L5 ANSWER 86 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L5 ANSWER 86 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1997-052813 CAPLUS

DN 127-307752

TJ Organic-soluble polyimides: synthesis and characterization of polyimides containing phenylated p-biphenyl and p-terphenyl units

AU Harris, Frank W.; Sakaguchi, Yoshimitsu; Shibata, Mitsuhiro; Cheng, Stephen Z. D.

CS The Maurice Morton Institute and the Department of Polymer Science, The University of Akron, Akron, OH, 44325-3909, USA

SO High Performance Polymers (1997), 9(3), 251-261

CODEN: HPPDXX; ISSN: 0954-0083

PB Institute of Physics Publishing

DT Journal

LA English

AB 4,4'-Diamino-2,2'-biphenylbiphenyl (I), 4,4'-diamino-2',3',5',6'-tetraphenyl-p-terphenyl (II) and 4,4'-diamino-2',3',5',6'-tetraphenyl-p-terphenyl (III) have been polymerized with several aromatic dianhydrides in refluxing m-cresol containing isouindoline to afford a series of phenylated polyimides. The polymerization mixtures of I and 3,3',4,4'-biphenyltetracarboxylic dianhydride (ODPA) and 3,3',4,4'-biphenylsulfone tetracarboxylic dianhydride (OTDA) of II and pyromellitic dianhydride (PMDA) set to gel-like structures upon cooling. The gels, which displayed optical anisotropy typical of a liquid crystalline-like phase, could be dissolved by heating and re-formed by cooling. Although the pre-catalyzed, rigid-rod polymers obtained from the diamines and PMDA were only soluble in concentrated sulfuric acid, the polymers that were prepared from I and II and 3,3',4,4'-diphenylether tetracarboxylic dianhydride (ODPA), 3,3',4,4'-diphenylsulfone tetracarboxylic dianhydride (OTDA) and 2,2-bis[4-(1,2-dicarboxyphenyl)]-1,1,3,3-hexafluoropropane dianhydride (6FDA) were soluble in N-methyl-2-pyrrolidinone (NMP), m-cresol and chlorinated solvents. In general, polymers prepared from II were the most soluble, while polymers prepared from III were the least soluble. The intrinsic viscosities of the polymers ranged from 0.61 to 5.1 dl.g<sup>-1</sup> in concentrated sulfuric acid or NMP at 30°. The glass transition temps. of most of the polymers could not be detected with differential scanning calorimetry. The temps. at which the polymers underwent 5% weight losses when subjected to thermal gravimetric anal. ranged from 500° to 600°. The thermal stabilities of several of the polymers could be solution cast into thin, water-white flexible films.

IT 121265-82-5P, 3,3',4,4'-Biphenyltetracarboxylic dianhydride-4,4'-diamino-2',3',5',6'-tetraphenyl-p-terphenyl copolymer,

sru 121265-82-6P, 4,4'-Diamino-2',3',5',6'-tetraphenyl-p-terphenyl-3,3',4,4'-diphenylether tetracarboxylic dianhydride copolymer,

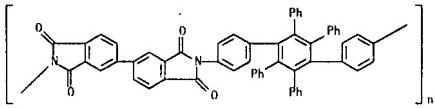
sru 121265-84-7P, 4,4'-Diamino-2',3',5',6'-tetraphenyl-p-terphenyl-3,3',4,4'-diphenylsulfone tetracarboxylic dianhydride copolymer, sru

RL: PPR (Properties); SPN (Synthetic preparation); PREP (Preparation) (synthesis and characterization of organic-soluble polyimides containing phenylated p-biphenyl and p-terphenyl units)

RN 121265-82-5 CAPLUS

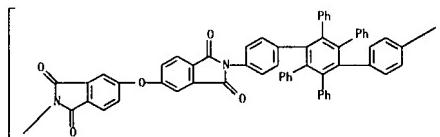
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isouindole-2,5-diy)oxy(1,3-dihydro-1,3-dioxo-2H-isouindole-5,2-diy)(2',3',5',6'-tetraphenyl[1,1':4',1"-terphenyl]-4,4"-diy)] (9Cl) (CA INDEX NAME)

L5 ANSWER 86 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

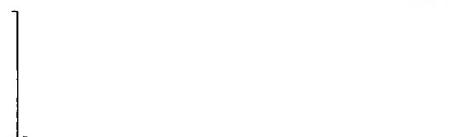


RN 121265-83-6 CAPLUS  
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isouindole-2,5-diy)oxy(1,3-dihydro-1,3-dioxo-2H-isouindole-5,2-diy)(2',3',5',6'-tetraphenyl[1,1':4',1"-terphenyl]-4,4"-diy)] (9Cl) (CA INDEX NAME)

PAGE 1-A



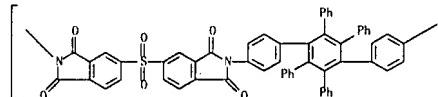
PAGE 1-B



RN 121265-84-7 CAPLUS  
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isouindole-2,5-diy)sulfonyl(1,3-dihydro-1,3-dioxo-2H-isouindole-5,2-diy)(2',3',5',6'-tetraphenyl[1,1':4',1"-terphenyl]-4,4"-diy)] (9Cl) (CA INDEX NAME)

L5 ANSWER 86 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

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PAGE 1-B

RE. CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 87 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1997:519436 CAPLUS

DN 127:197527  
 TI Light-emitting material for organo-electroluminescence device and organo-electroluminescence device for which the light-emitting material is adapted

IN Tanimoto, Michiko; Enokida, Toshiro  
 PA Toyo Ink Manufacturing Co., Ltd., Japan  
 SO Eur. Pat. Appl., 31 pp.  
 CODEN: EPXDW

DT Patent  
 LA English  
 FAN CNT 1

| PATENT NO.   | KIND | DATE                           | APPLICATION NO.                            | DATE                         |
|--|------|--------------------------------|--|------------------------------|
| PI EP 786926   | A2   | 19970730                       | EP 1997-300551                             | 19970129 <--                 |
| EP 786926  | A3   | 19970806                       |  |                              |
| EP 786926  | B1   | 20010822                       |  |                              |
| R: DE, FR, GB<br>JP 092108283<br>JP 09210825<br>US 5811834<br>PRAI JP 1996-12488<br>OS MARPAT 127:197527<br>GI | A    | 19971014<br>20040329<br>A<br>A | JP 1997-7113<br>US 1997-788436<br>19960129 | 19970120 <--<br>19970128 <-- |

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Compds. for use in electroluminescent devices are described by the general formulas I and II (A-D are the same or different groups each = (un)substituted alkyl, (un)substituted monocyclic group, or (un)substituted fused polycyclic group, or A and B, C and D, together with the nitrogen atom to which they are attached, form a substituted heterocyclic ring); R1-R20 are independently selected from H, halogen atoms, (un)substituted alkyl, (un)substituted alkoxy, (un)substituted amino, (un)substituted monocyclic, or (un)substituted fused polycyclic groups; and XI-4 are independently selected from various linking groups. Television sets, light-emitting devices, copy machines, printers, liquid-crystal displays, displays, electrophotog. photoreceptors, photoelec. converters, solar cells, and image sensors containing electroluminescent devices employing the compds. are also described.

IT 194296-19-0 194296-21-4 194296-24-7

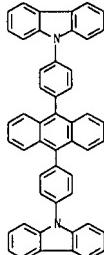
194296-26-9 194296-28-1 194296-30-5

194296-32-7

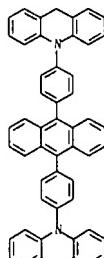
RL: DEV: (Device component use); PRP (Properties): USES (Uses)  
 (light-emitting materials based on bis(aminophenyl)anthracene derivs. for organic electroluminescent devices and the electroluminescent devices and devices using them)

RN 194296-19-0 CAPLUS  
 CN 9H-Carbazole, 9, 9'-(9, 10-anthracenediylid-4, 1-phenylene)bis- (9CI) (CA INDEX NAME)

L5 ANSWER 87 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

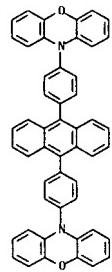


RN 194296-21-4 CAPLUS  
 CN Acridine, 10,10'-(9H,9'H)-(9,10-anthracenediylid-4,1-phenylene)bis- (9CI) (CA INDEX NAME)

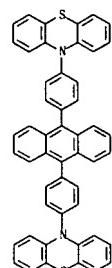


RN 194296-24-7 CAPLUS  
 CN 10H-Phenoxazine, 10,10'-(9,10-anthracenediylid-4,1-phenylene)bis- (9CI) (CA INDEX NAME)

L5 ANSWER 87 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



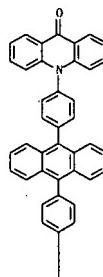
RN 194296-26-9 CAPLUS  
 CN 10H-Pheothiazine, 10,10'-(9,10-anthracenediylid-4,1-phenylene)bis- (9CI) (CA INDEX NAME)



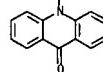
RN 194296-28-1 CAPLUS  
 CN 9(OH)-Acridinone, 10,10'-(9,10-anthracenediylid-4,1-phenylene)bis- (9CI) (CA INDEX NAME)

L5 ANSWER 87 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

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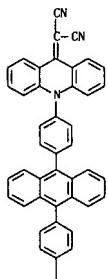
RN 194296-30-5 CAPLUS  
 CN Propanedinitrile, 2,2'-(9,10-anthracenediylid-4,1-phenylene)bis(4,1-acridinyl-9-ylidene) (9CI) (CA INDEX NAME)



PAGE 2-A

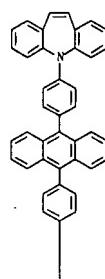
L5 ANSWER 87 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A

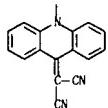


L5 ANSWER 87 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

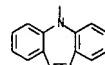
PAGE 1-A



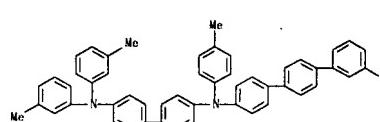
PAGE 2-A



PAGE 2-A



RN 194296-32-7 CAPLUS  
 AN 1997-224923 CAPLUS  
 DN 126-289-093  
 TI Thermal stability of electroluminescent devices fabricated using novel charge-transporting materials  
 AU Tokito, Shizuo; Tanaka, Hiromitsu; Noda, Koji; Okada, Akane; Taga, Yasunori  
 CS Toyota Central Res. and Dev. Lab., Inc., Aichi, 480-11, Japan  
 SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1997), 38(1), 388-389  
 CODEN: ACPAY; ISSN: 0032-3934  
 PB American Chemical Society, Division of Polymer Chemistry  
 DT Journal  
 LA English  
 AB Novel electron- and hole-transporting materials for the electroluminescent devices are described. The basic structures of the hole-transporting materials are a linear or branch linkages of triphenylamine moiety. The electron-transporting materials are based on oxadiazole moiety with branched or twinned structures. The electroluminescent characteristics of these materials and devices based on them are also presented.  
 IT 189196-03-8  
 RL: DEV (Device component use): PRP (Properties); USES (Uses)  
 (thermal stability of electroluminescent devices fabricated using novel charge-transporting materials)  
 RN 189196-03-8 CAPLUS  
 CN [1,1'-Biphenyl]-4,4'-diamine, N,N-bis(3-methylphenyl)-N'-(4-methylphenyl)-N'-(3'-methyl[1,1':4',1''-terphenyl]-4-yl)- (9CI) (CA INDEX NAME)



L5 ANSWER 88 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

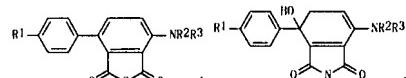
AN 1997-120742 CAPLUS

DN 126-171448

TI Synthesis and spectral properties of 3-morpholino-6-arylphthalic anhydrides and -phthalimides

AU Kalosha, I. I.; Kalinkovich, O. G.; Sadovskii, O. L.  
 CS Inst. Mol. At. Fiz., Akad. Nauk Respub. Belarus, Minsk, Belarus  
 SO Zhurnal Obschhei Khimii (1996), 66(10), 1705-1709  
 CODEN: ZOKHA4; ISSN: 0044-460X

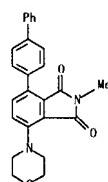
PB Nauka  
 DT Journal  
 LA Russian  
 OS CASREACT 126:171448  
 GI



AB 3-Amino-6-arylphthalic anhydrides (I; R<sub>1</sub> = H, hexyl, Ph, 4-nitrophenyl, 2,2-dichlorocyclopropyl; NR<sub>2</sub>R<sub>3</sub> = NEt<sub>2</sub>, morpholino) were prepared by Diels-Alder reaction of 2-amino-5-arylfurans with maleic anhydride. Reaction of I with MeNH<sub>2</sub> gave phthalimide derivs. (II). I and II having NR<sub>2</sub>R<sub>3</sub> = morpholino exhibited fluorescence with  $\phi$  up to 0.3.

IT 187089-86-7  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and fluorescence of)

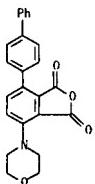
RN 187089-86-7 CAPLUS  
 CN 1H-Isindole-1,3(2H)-dione, 4-[1,1'-biphenyl]-4-yl-2-methyl-7-(4-morpholinyl)- (9CI) (CA INDEX NAME)



IT 185755-21-9P  
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (synthesis, preparation, fluorescence, and reaction with methylamine)

RN 185755-21-9 CAPLUS  
 CN 1,3-isobutofuranone, 4-[1,1'-biphenyl]-4-yl-7-(4-morpholinyl)- (9CI) (CA INDEX NAME)

L5 ANSWER 89 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L5 ANSWER 90 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1997-589 CAPLUS  
DN 126-97113

TI Vacuum vapor deposition of phthalimide and phthalanhydride derivatives on

the substrates covered with monolayer films

AU Zhavoronko, G. K.; Kuchuk, T. A.; Agabekov, V. E.

CS Institute of Physical Organic Chemistry, Belarus Academy of Science, Minsk, 220072, Belarus

SO Thin Solid Films (1996), 286(1-2), 227-231

COEN: THSFAP; ISSN: 0040-6090

PR Elsevier

DT Journal

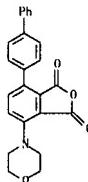
LA English

AB The 3-morpholinylphthalimide and phthalanhydride derivative films deposited on hydrophobic substrates or substrates covered with Langmuir-Blodgett (LB) films were studied by linear dichroism measurements, x-ray diffraction, and electron microscopy methods. The structure and quality of the films depend on the deposited compound structure, the deposition rate and on the substrate temperature. Amorphous and polycryst. films of the substances studied are formed on the hydrophobic substrates and on the LB substrates at a room temperature. When the substrate temperature was reduced to 323 K 4-(4-morpholinyl)-7-phenyl-1,3-isobenzofuranidine only tends to grow with preferably orientation on the LB film of the mixture of 7-(4-acetoxyphenyl)-4-(4-morpholinyl)-2-octadecyl-1H-isindole-1,3-(2H)-dione and the stearic acid covered substrate.

IT 185755-21-9

RL: PRP (Physical, engineering or chemical process): PRP (Properties):  
PROC (Process)  
(vacuum vapor deposition of phthalimide and phthalanhydride derivs. on substrates covered with monolayer film mixts. of [acetoxyphenyl]morpholinyl octadecylisindolodione and stearic acid)

RN 185755-21-9 CAPLUS

CN 1,3-isobenzofuranidine, 4-[1,1'-biphenyl]-4-y]-7-(4-morpholinyl)-(9CI)  
(CA INDEX NAME)

L5 ANSWER 91 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1996-716411 CAPLUS  
DN 126-19537

TI Electric field induced quenching of luminescence and its connection with photogeneration of charge carriers in aromatic polyimides based on 9,10-bis-(p-aminophenyl)anthracene

AU Kapustin, G. V.; Rumyantsev, B. M.; Pebalk, D. V.; Kolov, B. V.  
CS State Res. Cent. Russ. Fed. "Karpov Inst. Phys. Chem.", Moscow, 103064, RussiaSO Vysokomolekulyarnyye Soedineniya. Seriya A i Seriya B (1996), 38(8), 1343-1350  
CODEN: VSSBEE

PB MAIK Nauka

DT Journal

LA Russian

AB Spectral-luminescent and photoelec. properties of PI films based on 9,10-bis-(p-aminophenyl)anthracene were studied. The PI samples studied exhibit luminescence of the excited type, which can be quenched by external electric field. The rate of quenching efficiency is proportional to the squared field strength. In a series of polyimides with diimide chain fragments of the same type, the quenching increases nonlinearly with the electron affinity of the diimide fragment. PI samples with the maximum quenching effect also exhibit the maximum photosensitivity in the regime of stationary photocond. Using the method of photoinduced decay of the surface potential, the quantum yields of photogenerated charge carriers were determined for the most sensitive PI sample. The field dependence of the quantum yield of photogenerated charge carriers is virtually identical with that of the luminescence quenching efficiency. In the absorption region of the main chromophore, the quantum yield within a given electronic absorption band sharply increases with the energy of the exciting light quantum. The magnetic field produces a pos. effect on the photogeneration of charge carriers, which is evidence of the ion-radical nature of the components of the localized ion pairs formed in the system. The lifetime of the ion pairs is evaluated. On the basis of the results obtained, a mechanism of charge carrier photogeneration is proposed which takes into account structural features of the PI studied.

IT 106725-35-3 106725-36-4 133030-08-7  
168026-63-9

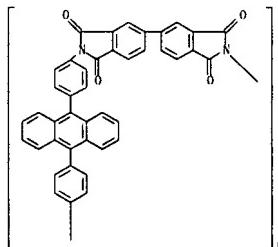
RL: PRP (Properties)

(elec. field-induced quenching of luminescence and its connection with photogeneration of charge carriers in aromatic polyimides based on 9,10-bis-(p-aminophenyl)anthracene)

RN 106725-35-3 CAPLUS

CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isindole]-2,2'-diyl)-1,4-phenylene-9,10-anthracenediyl-1,4-phenylene] (9CI) (CA INDEX NAME)

L5 ANSWER 91 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

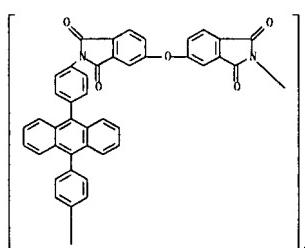


RN 106725-36-4 CAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)carbonyl(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)-1,4-phenylene-9,10-anthracenediyl-1,4-phenylene] (9CI) (CA INDEX NAME)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

RN 133030-08-7 CAPLUS  
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)-1,4-phenylene-9,10-anthracenediyl-1,4-phenylene] (9CI) (CA INDEX NAME)

RN 168026-63-9 CAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)(3-oxo-1(3H)-

L5 ANSWER 91 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
isobenzofuranylidene)(1,3-dihydro-2H-isindole-5,2-diyl)-1,4-phenylene-9,10-anthracenediyl) (9CI) (CA INDEX NAME)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

L5 ANSWER 92 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1996-580231 CAPLUS  
DN 125-234547  
TI Organic electroluminescent element, organic thin film, and triamine compounds

IN Yamawaki, Hisayuki; Nakamura, Hiroaki; Hosokawa, Chishio

PA Ibaraki Kogen Co., Ltd., Japan

SO PCT Int'l Appl. '94 pp.

CODEN: PIIXD2

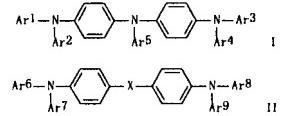
DT Patent

LA Japanese

FAN CNT 1

| PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE        |
|--|------|----------|-----------------|-------------|
| WO 9622273   | A1   | 19960725 | WO 1996-JP82    | 19960119 -- |
| W: CN, US<br>RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE<br>JP 08193191 A 19960730 JP 1995-6254 19950119 -- |      |          |                 |             |
| JP 3306735 B2 20020724   |      |          |                 |             |
| JP 0805470 A 19970408 JP 1995-252979 19950929 --   |      |          |                 |             |
| EP 805143 B2 20040305  |      |          |                 |             |
| EP 806143 A1 19971005 EP 1996-900715 19960119 --   |      |          |                 |             |
| EP 806143 B1 20011205  |      |          |                 |             |
| R: BE, CH, DE, FR, GB, IT, LU, NL, SE<br>CN 1168132 A 19971217 CN 1996-191527 19960119 --  |      |          |                 |             |
| US 6074734 A 20000613 US 1997-860927 19970721 --   |      |          |                 |             |
| PRAI JP 1995-6254 A 19950119   |      |          |                 |             |
| JP 1995-252979 A 19950929  |      |          |                 |             |
| WO 1996-JP82 W 19960119  |      |          |                 |             |

GI



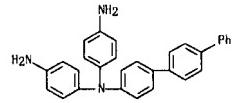
AB Triamine compd. are represented by general formula I (Ar1-5 = C6-18 aryl). An organic electroluminescent element comprises a pair of electrodes and, sandwiched therebetween, an organic compound layer containing at least a luminescent band layer and a hole transport band layer comprising a hole injection layer containing the triamine compound and a hole transport layer; and a two-layered organic thin film comprising a layer that contains I and has a thickness of 5 nm to 5 μm and another layer that contains a compound II (X = methylene, phenylene, biphenylene, O, S; Ar6-10 = C6-18 aryl) and has a thickness of 5 nm to 5 μm. The invention provides an organic electroluminescent element requiring no thermal treatment, having a long lifetime, breakdown even when stored for long and remarkably enhanced in electroluminescence efficiency, a long-lived organic electroluminescent element excellent in the stability of electroluminescence even when continuously driven for long, and an organic thin film excellent in hole injection and transport characteristics.

IT 181367-39-5 181367-41-9

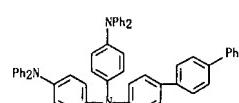
RL: DEV (Device component use): PEP (Physical, engineering or chemical)

L5 ANSWER 92 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
process); PROC (Process); USES (Uses)  
(triamine compound thin film for electroluminescent element)

RN 181367-39-5 CAPLUS  
CN 1,4-Benzenediamine, N-[4-(4-aminophenyl)-N-[1,1':4',1''-terphenyl]-4-yl]- (9CI) (CA INDEX NAME)



RN 181367-41-9 CAPLUS  
CN 1,4-Benzenediamine, N-[4-(diphenylamino)phenyl]-N,N'-diphenyl-N-[1,1':4',1''-terphenyl]-4-yl]- (9CI) (CA INDEX NAME)



L5 ANSWER 92 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1995-449135 CAPLUS

DN 125-128008

TI Manufacture of liquid-crystal display element

IN Okabe, Yoshiaki; Miwa, Takao; Iwakabe, Yasushi; Yokokura, Hisao; Iwasaki, Koshiro; Sasaki, Hiroshi; Takahashi, Akio

PA Hitachi Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

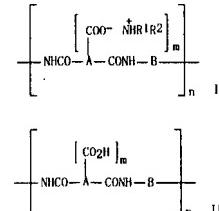
DT Patent

LA Japanese

FAN CNT 1

| PATENT NO.                   | KIND | DATE | APPLICATION NO. | DATE        |
|------------------------------|------|------|-----------------|-------------|
| JP 08087017 A 19960402       |      |      | JP 1994-224675  | 19940920 -- |
| PRAI JP 1994-224675 19940920 |      |      |                 |             |

GI



AB In the display element comprising a liquid crystal sandwiched between a pair of transparent substrates with transparent electrodes and with liquid crystal orientation films, a polycarboxylic acid salt I (A = tri- or tetravalent aromatic or aliphatic group; B = divalent aromatic or aliphatic group; E = monovalent aromatic or aliphatic group; R1-2 = H, Cl-3 alkyl, alkoxy, hydroxymethyl; m = 1-2; n = 10-720) aqueous solution film is formed, heat-treated for imidation, and the resulting polyimide film rubbed to give the orientation film. Polyamic acid and with an amine compound HIRANE (E = monovalent aromatic or aliphatic group; R1-2 = H, Cl-3 alkyl) to give a polycarboxylic acid salt film, heat-treated for imidation, and the polyimide film rubbed to give the orientation film. The orientation film is easy to prepare and gives large and stable tilt angles.

IT 26402-03-9, 3,3',4,4'-Biphenyltetracarboxylic acid dianhydride-4,4'-diamino-p-terphenyl copolymer, sru

RL: DEV (Device component use): USES (Uses)

(liquid-crystal display device with polyimide orientation film)

RN 26402-03-9 CAPLUS

CN Poly[(1,1',3,3'-tetrahydro-1',1',3'-tetraoxo[5,5'-bi-2H-isindole]-2,2'-diyl){1,1':4',1''-terphenyl}-4,4'-diyl] (9CI) (CA INDEX NAME)



L5 ANSWER 96 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1995-273378 CAPLUS  
DN 124-302629

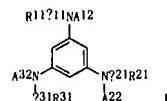
TI Organic electroluminescent device  
IN Shioya, Yasuhiko; Nakaihara, Kenji; Inoue, Tetsuji; Nambu, Noriyoshi  
PA TDK Electronics Co., Ltd., Japan; TDK Corp.  
SO Jpn. Kokai Tokkyo Koho, 19 pp.  
CODEN: JKXXAF

DT Patent

LA Japanese

FAN CNT 1

| PATENT NO.          | KIND | DATE     | APPLICATION NO. | DATE         |
|---------------------|------|----------|-----------------|--------------|
| PI JP 08048974      | A    | 19960220 | JP 1994-207970  | 19940809 <-- |
| PRAI JP 1994-207970 | B2   | 20031202 |                 |              |
| OS MARPAT 124:30269 |      | 19940809 |                 |              |
| GI                  |      |          |                 |              |



AB The organic electroluminescent device comprises a layer containing electron injection/transport compound and triarylamino benzene represented by I [R11, R21, and R31 = divalent aromatic residue; R11, R21, and R31 = N(R11)R21, N(R11)O1, N(R11)O1, O1, O(R11) or S(O1); O1, O2 = monovalent aromatic residue; R11 = alkyl; one of R11, R21, and R22 = N(R11)R21, N(R11)O1, or N(R11)O1; A12, A22, and A32 = monovalent aromatic residue, alky1, or H].

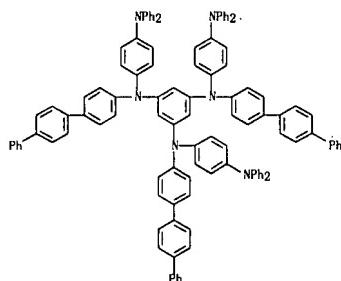
IT 162879-27-8

RL DEV (Device component used): USES (Uses)  
(organic electroluminescent device having layer containing  
triarylamino benzene derivative)

RN 162879-27-8 CAPLUS

CN 1,3,5-Benzenetriamine, N,N',N''-tris[4-(diphenylamino)phenyl]-N,N',N''-tris([1,1':4',1''-terphenyl]-4-yl)] (CA INDEX NAME)

L5 ANSWER 96 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L5 ANSWER 97 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1995-256062 CAPLUS

DN 124-290635

TI Polypridinium salts

IN Harris, Frank W.; Chuang, Chun Hua K.

PA University of Akron, USA

SO Can. Pat. Appl., 48 pp.

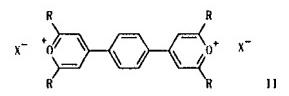
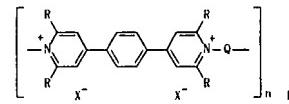
CODEN: CPXXEB

DT Patent

LA English

FAN CNT 1

| PATENT NO.           | KIND | DATE     | APPLICATION NO. | DATE         |
|----------------------|------|----------|-----------------|--------------|
| PI CA 2124647        | A1   | 19951201 | CA 1994-2124647 | 19940530 <-- |
| CA 2124647           | C    | 20070501 |                 |              |
| PRAI CA 1994-2124647 |      | 19940530 |                 |              |
| GI                   |      |          |                 |              |



AB Title salts I (R = aryl), Q = arylene, X = halide, BF4-, ClO4-, or triflate), useful for doping to prepare elec. conductors, are manufactured by polymerization of pyridinium salts II (R, X = same as in I) with H2NQNH2 (Q = arylene) at 100-200° in an aprotic solvent. A typical polymer was manufactured by polymerization of II (R = Ph, X = ClO4-) with 1,4-phenylenediamine 49.5 h in DMF at 145°.

IT 122538-91-4

RL IMF (Industrial manufacture); PREP (Preparation)  
(polypridinium salts for elec. conductors)

RN 122538-91-4 CAPLUS

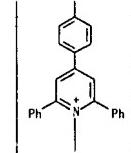
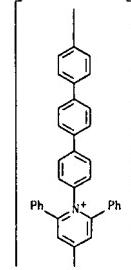
CN Poly[(2,6-diphenylpyridinium-1,4-diyl)-1,4-phenylene(2,6-diphenylpyridinium-4,1-diyl)[1,1':4',1''-terphenyl]-4,4''-diyl bis[tetrafluoroborate(1-)]] (9C1) (CA INDEX NAME)

CM 1

CRN 122538-90-3  
CMF (C58 H40 N2)n  
CC1 PMS

L5 ANSWER 97 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A



PAGE 2-A

CM 2  
CRN 14874-70-5  
CMF B, F4  
CC1 CCS



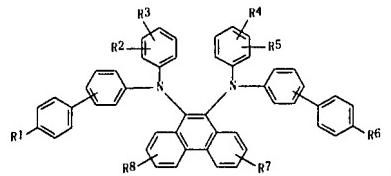
L5 ANSWER 98 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1996:177217 CAPLUS  
 DN 124:274119

TI Hole-transporting material and electroluminescent device and  
 electrophotographic photoreceptor using it  
 IN Tamano, Michiko; Onikubo, Shunichi; Kamimura, Toshifumi; Ogawa, Tadashi;  
 Enokida, Toshiro  
 PA Toyo Ink Mfg Co, Japan  
 SO Jpn. Kokai Tokkyo Koho, 14 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN, CNT 1

| PATENT NO.          | KIND | DATE     | APPLICATION NO. | DATE         |
|---------------------|------|----------|-----------------|--------------|
| P1 JP 08020770      | A    | 19960123 | JP 1994-157078  | 19940708 <-- |
| JP 3079903          | B2   | 20000821 |                 |              |
| PRA1 JP 1994-157078 |      | 19940708 |                 |              |

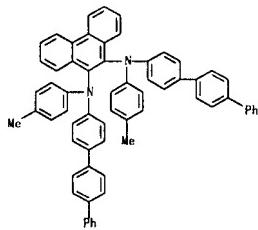
OS MARPAT 124:274119

GT



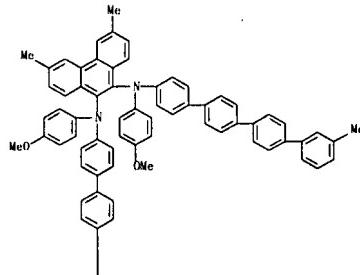
AB The hole-transporting material consists of a phenanthrene derivative I (R1-6 = H, halo, alkyl, alkoxy, cycloalkyl, carbocyclic aromatic group, heterocyclic group; R7-8 = H, halo, alkyl, alkoxy; R1-8 may be substituted). The electroluminescent device and the electrophotog. photoreceptor contain I as a hole-transporting material. A device containing I showed high luminescent efficiency and luminance.  
 IT 175395-61-6  
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)  
 (4phenanthrene derivative hole-transporting material for electroluminescent devices and electrophotog. photoreceptors)  
 RN 175395-61-6 CAPLUS  
 CN 9,10-Phenanthrenediamine, N,N'-bis(4-methylphenyl)-N,N'-bis([1,1':4',1''-terphenyl]-4-yl)- (9CI) (CA INDEX NAME)

L5 ANSWER 98 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



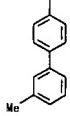
IT 175395-64-9  
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)  
 (phenanthrene derivative hole-transporting material for electroluminescent devices and electrophotog. photoreceptors)  
 RN 175395-64-9 CAPLUS  
 CN 9,10-Phenanthrenediamine, N,N'-bis(4-methoxyphenyl)-3,6-dimethyl-N,N'-bis(3'',-methyl[1,1':4',1''-terphenyl]-4-yl)- (9CI) (CA INDEX NAME)

PAGE 1-A



L5 ANSWER 98 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 2-A



L5 ANSWER 99 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

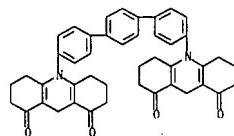
AN 1996:120313 CAPLUS

DN 124:178859

TI Synthesis of acridinediones derivatives as laser dyes  
 AU Shanmugasundaram, Palanisamy; Murugan, Periyasamy; Ramakrishnan, Vayalakkavoor T.; Srividiya, Narayanan; Ramaamurthy, Perumal  
 CS Dep. Organic Chem., Sch. Chem., Univ. Madras, Madras, 600 025, India  
 SO Heterocatom Chemistry (1996), 7(1), 17-22  
 CODEN: HETCBB; ISSN: 1042-7163

PB Wiley  
 DT Journal  
 LA English  
 AB Syntheses of 9-alkyl-, 10-alkyl-, 9,10-dialkyl-, and 10-aryl-3,4,6,7,9,10-hexahydro-1,8(2H,5H)acridinediones are described as a new class of laser dye. Reactions of diamines with 2,2'-methylenebis(1,3-cyclohexanedione) yielded the resp. bisacridinediones. These dyes lase at 478-494 nm and are compared with the standard dye coumarin-102.  
 IT 174158-19-1P  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (synthesis of acridinediones derivs. as laser dyes)

RN 174158-19-1 CAPLUS  
 CN 1,8(2H,5H)-Acridinedione, 10,10'-(1,1':4',1''-terphenyl)-4,4''-diylbis[3,4,6,7,9,10-hexahydro- (9CI) (CA INDEX NAME)



L5 ANSWER 100 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1095-745187 CAPLUS  
 DN 123-109554

TI Synthetic properties and x-ray diffraction study of aromatic polyimides based on 9,10-bis(p-aminophenyl)anthracene

AU Kotov, B. V.; Kapustin, G. V.; Chvalun, S. N.; Vasilenko, N. A.

CS Karpov Inst. Phys. Chem. Moscow, 103064, Russia

SO Vysokomolekulyarnye Soedineniya, Seriya A i Seriya B (1994), 36(12), 1972-81

CODEN: VSSBEE

PB MAIK Nauka

DT Journal

LA Russian

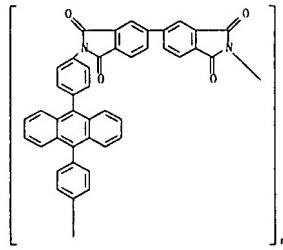
AB Aromatic polyimides based on 9,10-bis(p-aminophenyl)anthracene and a series of dianhydrides of aromatic tetracarboxylic acids were synthesized, and their thermal, phys., mech., and insulating properties were studied. The films of the synthesized polyimides possess high mech. strength and exhibit high thermal stability and heat resistance. Poly(morpholine-1,4-dicarboxylic acid dianhydride) and poly(4,4'-diphenyl-3,4,4',4''-tetracarboxylic acid dianhydride) are highly crystalline and exhibit a planar texture, which allowed the crystal lattice parameters of the latter compound to be determined. The oriented films of this polyimide are characterized by high strength. The elastic modulus is close to the values typical of liquid-crystal aromatic polymers.

IT 106725-35-3P, 9,10-Bis(p-aminophenyl)anthracene-3,4,3',4'-biphenyletracarboxylic dianhydride copolymer, SRU polyimide  
 106725-36-4P, 9,10-Bis(p-aminophenyl)anthracene-3,3',4,4'-benzenophenetetracarboxylic dianhydride copolymer, SRU polyimide  
 133030-08-7P, 9,10-Bis(p-aminophenyl)anthracene-3,3',4,4'-diphenyloxytriacarboxylic acid anhydride copolymer, SRU polyimide  
 168026-63-9P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (synthesis and properties of)

RN 106725-35-3 CAPLUS

CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isindole]-2,2'-diyl)-1,4-phenylene-9,10-anthracenediyl-1,4-phenylene] (9CI) (CA INDEX NAME)



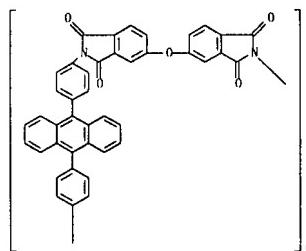
RN 106725-36-4 CAPLUS

L5 ANSWER 100 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)carbonyl(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)-1,4-phenylene-9,10-anthracenediyl]-1,4-phenylene] (9CI) (CA INDEX NAME)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

RN 133030-08-7 CAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)-1,4-phenylene-9,10-anthracenediyl]-1,4-phenylene] (9CI) (CA INDEX NAME)



RN 168026-63-9 CAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)(3-oxo-1(3H)-isobenzofuranylidene)(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)-1,4-phenylene-9,10-anthracenediyl-1,4-phenylene] (9CI) (CA INDEX NAME)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

L5 ANSWER 101 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1995-662912 CAPLUS

DN 123-270709

TI Electrophotographic photosensitive member and electrophotographic apparatus, device unit and facsimile machine using the same

IN Maruyama, Akio; Kikuchi, Toshiro; Amamori, Shoji; Nagahara, Shin; Aoki, Kazumi

PA Canon K. K., Japan

SO U.S., 43 pp. Cont.-in-part of U.S. Ser. No. 852,720, abandoned.

CODEN: USXXAM

DT Patent

LA English

FAN CNT 2

| PATENT NO. | KIND          | DATE | APPLICATION NO. | DATE           |
|------------|---------------|------|-----------------|----------------|
| PI         | US 5422210    | A    | 19950606        | US 1992-968465 |
|            | JP 05100464   | A    | 19930423        | JP 1992-62306  |
| PRAI       | JP 2584930    | B2   | 19970226        |                |
| PRAI       | JP 1991-77290 | A    | 19910318        |                |
|            | JP 1991-77291 | A    | 19910318        |                |
|            | JP 1991-77292 | A    | 19910318        |                |
| US         | 1992-852720   | B2   | 19920317        |                |
| JP         | 1992-62306    | A    | 19920318        |                |

OS MARPAT 123:270709

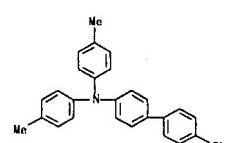
AB An electrophotog. photosensitive member comprises a conductive support, a photosensitive layer and a protective layer, the protective layer containing resin formed by hardening a light-setting type acrylic monomer, and the photosensitive layer containing  $\pm 1$  compound selected from the group consisting of (A), (B) and (C) below: (A) styryl compds.

(Ar<sub>1</sub>)<sub>m</sub>-Ar<sub>2</sub>-Ar<sub>3</sub>-(OC(=O)R<sub>2</sub>)-Ar<sub>1</sub> (Ar<sub>1</sub> and Ar<sub>2</sub> are aromatic ring group or a bivalent heterocyclic group, Ar<sub>3</sub> is an alkyl group or an aromatic ring group, R<sub>2</sub> is a H atom, an alkyl group or an aromatic ring group, and n is 1 or 2, R<sub>1</sub> and R<sub>2</sub> possibly linking to form a ring when n = 1); (B) triarylamine compound having a structure expressed by the following formula Ar<sub>4</sub>Ar<sub>5</sub>Ar<sub>6</sub> (m, p,  $\leq 150^\circ$ )Ar<sub>5</sub> and Ar<sub>6</sub> is aromatic ring group or a heterocyclic group; (C) hydrazone compds. A-[CR<sub>3</sub>:NRHAr<sub>5</sub>]m (m, p,  $\leq 155^\circ$ )R<sub>3</sub> is a H atom or an alkyl group, R<sub>4</sub> and R<sub>5</sub> are alkyl groups, aralkyl groups or aromatic ring groups, m is 1 or 2, A is an aromatic ring group, a heterocyclic group or -CH<sub>2</sub>CR<sub>6</sub>R<sub>7</sub> (R<sub>6</sub> and R<sub>7</sub> are H atoms, aromatic ring groups or heterocyclic groups, but will never be H atoms at the same time). The photosensitive member suppresses the occurrence of cracks during forming of the protective layer, has high durability, and is free from any image defects.

IT 130965-29-6 CAPLUS

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)  
 (charge transport agent for electrophotog. photoconductor)

RN 130965-29-6 CAPLUS  
 CN [1,1':4',1''-Terphenyl]-4-amine, N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



L5 ANSWER 102 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1995-570839 CAPLUS

DN 124:41400

TI Photoresist composition for i-line exposure

IN Matsukawa, Yoshiro; Yokota, Kanichi; Kataoka, Yasuhiro

PA Asahi Chemical Ind., Japan

SO Jpn. Kokai Tokkyo Koho, 40 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN CNT 2

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE         |
|-------------|------|----------|-----------------|--------------|
| JP 06342211 | A    | 19941213 | JP 1993-181529  | 19930722 <-- |
| JP 2826940  | B2   | 19981118 |                 |              |
| US 6162580  | A    | 20001219 | US 1995-451616  | 19950526 <-- |
| US 6482569  | B1   | 20021119 | US 2000-572203  | 20000517 <-- |

PRAI JP 1993-181529

JP 1992-273222

JP 1993-66725

JP 1993-79504

US 1993-95783

US 1995-451616

AI 19950526

AB The title composition comprises (A) aromatic polyimide precursor with amide bond concentration of  $\geq 1.5$  mol/kg and containing a repeating unit,  $[X =$  tetravalent aromatic containing no F; positions of COR, COR', and CONNH<sub>2</sub> are ortho-positions each other; R, R' = OR<sub>1</sub>, NHR<sub>2</sub>, O-N(R<sub>3</sub>R<sub>4</sub>H<sub>5</sub>R<sub>6</sub>, OH), R<sub>1</sub>-3 = organic group containing ethylenic unsatd. bonds; R<sub>4</sub>-6 = H, Cl-6 hydrocarbyl; Y = divalent aromatic containing no F ], (B) photopolymer, initiator, and (C) solvent.

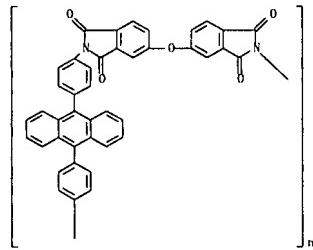
IT 133030-08-7

RL: DEV (Device component use); USES (Uses)

(i-line exposed polyimide)

RN 133030-08-7 CAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isodindole-2,5-diy)oxy(1,3-dihydro-1,3-dioxo-2H-isodindole-5,2-diy)-1,4-phenylene-9,10-anthracenediy-1,4-phenylene] (9Cl) (CA INDEX NAME)



L5 ANSWER 103 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1995-620128 CAPLUS

DN 122-302603

TI Organic electroluminescent device containing triarylamine derivative

IN Shirota, Yasuhiro; Nakajima, Kenji; Inoue, Tetsuji; Nonba, Noryoshi

PA TDK Electronics Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, B pp.

CODEN: JKXXAF

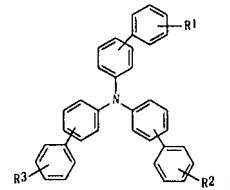
DT Patent

LA Japanese

FAN CNT 1

| PATENT NO.           | KIND | DATE     | APPLICATION NO. | DATE         |
|----------------------|------|----------|-----------------|--------------|
| JP 07053955          | A    | 19950228 | JP 1993-220570  | 19930812 <-- |
| JP 3278252           | B2   | 20020430 |                 |              |
| PRAI JP 1993-220570  |      | 19930812 |                 |              |
| OS MARPAT 122:302603 |      |          |                 |              |

GI



AB The device has  $\geq 1$  layer containing  $\geq 1$  triarylamine derivative I (R<sub>1</sub>-3 = H, halo, aliphatic hydrocarbyl, aromatic hydrocarbyl, substituted amino, aromatic heterocyclic group). In the device, a light-emitting layer or a hole-injection-transporting layer may contain I. The device showed high luminance and stable blue luminescence.

IT 145693-79-4P

RL: PNU (Preparation, unclassified); PREP (Preparation)

(blue-emitting electroluminescent device containing triarylamine derivative I with high luminance)

RN 145693-79-4 CAPLUS

CN {1,1'-4",4"-Terphenyl]-4-amine, N,N-bis([1,1':4",4"-terphenyl]-4-yl)- (9Cl) (CA INDEX NAME)

L5 ANSWER 102 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

(Continued)

L5 ANSWER 103 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

(Continued)

L5 ANSWER 103 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1995-620128 CAPLUS

DN 122-302603

TI Organic electroluminescent device containing triarylamine derivative

IN Shirota, Yasuhiro; Nakajima, Kenji; Inoue, Tetsuji; Nonba, Noryoshi

PA TDK Electronics Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, B pp.

CODEN: JKXXAF

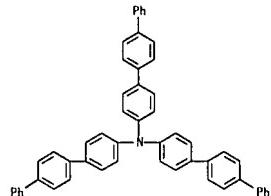
DT Patent

LA Japanese

FAN CNT 1

| PATENT NO.           | KIND | DATE     | APPLICATION NO. | DATE         |
|----------------------|------|----------|-----------------|--------------|
| JP 07053955          | A    | 19950228 | JP 1993-220570  | 19930812 <-- |
| JP 3278252           | B2   | 20020430 |                 |              |
| PRAI JP 1993-220570  |      | 19930812 |                 |              |
| OS MARPAT 122:302603 |      |          |                 |              |

GI



L5 ANSWER 104 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1995-148067 CAPLUS  
 DN 122-277531

TI Triarylaminobenzene derivatives, compounds for organic electroluminescent element, and organic electroluminescent element.  
 IN Shirota, Yasuhiko; Nakaya, Kenji; Okada, Norihiro; Namba, Kenryo  
 PA Japan  
 SO Eur. Pat. Appl., 22 pp.

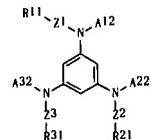
CODEN: EPXWD

DT Patent

LA English

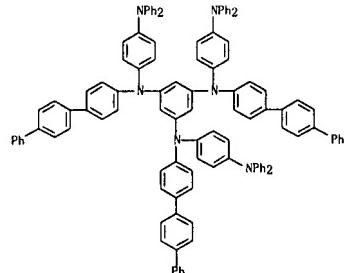
FAN CNT 1

| PATENT NO.           | KIND | DATE     | APPLICATION NO. | DATE         |
|----------------------|------|----------|-----------------|--------------|
| PI EP 611148         | A1   | 19940817 | EP 1994-300954  | 19940209 <-- |
| EP 611148            | B1   | 19980603 |                 |              |
| R: DE, FR, GB        |      |          |                 |              |
| JP 07097355          | A    | 19950411 | JP 1994-36605   | 19940209 <-- |
| JP 2419534           | B2   | 20030923 |                 |              |
| US 5509416           | A    | 19950416 | US 1994-194145  | 19940210 <-- |
| PRAI JP 1993-45785   | A    | 19930210 |                 |              |
| JP 1993-140041       | A    | 19930519 |                 |              |
| OS MARPAT 122-277531 |      |          |                 |              |
| GI                   |      |          |                 |              |



AB Novel triarylaminobenzene derivs. are represented by the formula I [Z1, Z2, and Z3 = divalent aromatic ring residues, R11, R21, and R31 = groups represented by -NR1Z1, -NR1Z1, -Z1, -OZ1 or -SZ1 wherein each of Z1 and Z2 = a monovalent aromatic ring residue, and R1 is an alkyl group, Z1 of R11, R21, and R31 being a group represented by -NR1Z2, -NHZ1 or -NR1Z1, and A12, A22, and A32 = aromatic residues, alkyl groups or H]. An organic electroluminescent element which uses the compound in an organic compound layer, especially in a hole injection transport layer provides uniform plane light emission and is durable enough to maintain luminance.  
 IT 162879-27-8  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (electroluminescent element component)  
 RN 162879-27-8 CAPLUS  
 CN 1,3,5-benzenetriamine, N,N',N''-tris[4-(diphenylamino)phenyl]-N,N',N''-tris([1,1':4',1''-terphenyl]-4-yl)- (GCI) (CA INDEX NAME)

L5 ANSWER 104 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L5 ANSWER 105 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1995-234807 CAPLUS  
 DN 122-9651

TI Preparation of tris(p-terphenyl)-4-yl)amine for photoelectric converters, thermochromic devices, and optical memory devices.

IN Shirota, Yasuhiko; Inada, Hiroshi; Higuchi, Shoji; Onishi, Katsuhira; Nomura, Michuki

PA Bando Chemical Ind. Japan

SO Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF

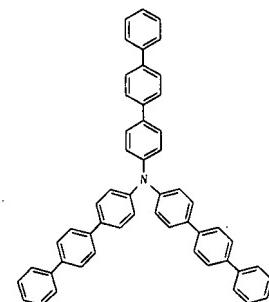
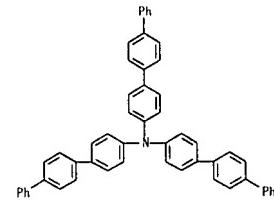
DT Patent

LA Japanese

FAN CNT 1

| PATENT NO.           | KIND | DATE     | APPLICATION NO. | DATE         |
|----------------------|------|----------|-----------------|--------------|
| PI JP 062228062      | A    | 19940816 | JP 1993-14556   | 19930201 <-- |
| JP 0515138           | B2   | 20040405 |                 |              |
| PRAI JP 1993-14556   |      | 19930201 |                 |              |
| OS CASREACT 122-9651 |      |          |                 |              |
| GI                   |      |          |                 |              |

L5 ANSWER 105 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



AB The title compound (I) was prepared in 5.1% yield via treatment of 4,4',4"-triiodotriphenylamine with a Grignard reagent prepared from 4-bromobiphenyl4-bromobiphenyl in THF-Et2O containing dichloro[1,3-bis(diphenylphosphino)propane]nickel(II).  
 IT 145693-79-4P  
 RL: IMF (Industrial manufacture); SPP (Synthetic preparation); PREP (Preparation)  
 (preparation of tris(p-terphenyl)-4-yl)amine for photoelec. converters, thermochromic devices, and optical memory devices.)  
 RN 145693-79-4 CAPLUS  
 CN [4,4',4"-Terphenyl]-4-amine, N,N-bis([1,1':4',1''-terphenyl]-4-yl)- (GCI) (CA INDEX NAME)

L5 ANSWER 106 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1995-225221 CAPLUS  
 DN 122-10863

TI Aromatic poly(pyridinium salt)s: synthesis and structure of organo-soluble rigid-rod poly(pyridinium tetrafluoroborate)s  
 AU Harris, Frank W.; Chuang, Kathy C.; Huang, Shieh Ann X.; Janiak, James J.; Cheng, Stephen Z. D.  
 CS Department Polymer Science, University Akron, Akron, OH, 44325-3909, USA  
 SO Polymer (1994), 35(23), 4940-8  
 CODEN: POLMAG; ISSN: 0032-3861  
 PB Elsevier  
 DT Journal  
 LA English  
 AB A series of phenylated, aromatic poly(pyridinium tetrafluoroborates) has been prepared by the polymerization of 4,4'-(1,4-phenylene)bis(2,6-diphenylpyridinium tetrafluoroborate) with aromatic diamines in a dimethylsulfoxide/toluene mixture at 145-150°. The water generated by the transformation of the pyridine rings to pyridinium rings was distilled from the reaction mixture as a water/toluene azeotrope. All-cataenated rigid-rod polymers with inherent viscosities as high as 0.4 dL/g were obtained that were soluble in polar aprotic solvents. The polymers could be solution cast into tough, flexible films. Although the glass transition temps. of the poly(pyridinium salts) were difficult to detect with differential scanning calorimetry, they displayed distinctive melting endotherms with min. above 380°. Thermogravimetric anal. showed that the polymers began to decompose near 360° prior to melting. Wide-angle x-ray diffraction anal. revealed that the chains were packed in a structure similar to that of a smectic liquid crystalline glass.

IT 122538-91-4P  
 RL: SPU (Synthetic preparation); PREP (Preparation)  
 (preparation and characterization of organo-soluble rigid-rod poly(pyridinium tetrafluoroborates))

RN 122538-91-4 CAPLUS

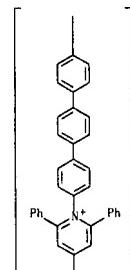
CN Poly[(2,6-diphenylpyridinium-1,4-diyl)-1,4-phenylene(2,6-diphenylpyridinium-4,1-diyl)[1,1':4',4'-terphenyl]-4,4'-diyl bis[tetrafluoroborate(1-)]] (9Cl) (CA INDEX NAME)

CM 1

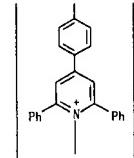
CRN 122538-90-3  
 CMF (C58 H40 N2)n  
 CCI PMS

L5 ANSWER 106 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A



PAGE 2-A



CM 2

GRN 14874-70-5  
 CMF B F4  
 CCI CCS



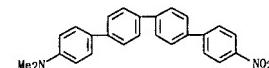
L5 ANSWER 107 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 1994-680208 CAPLUS  
 DN 121-280208

TI Further studies on the polarizabilities and hyperpolarizabilities of the substituted polyenes and polyphenyls  
 AU Alberi, Israel D. L.; Pugh, David; Morley, John O.  
 CS Department Pure Applied Chemistry, University Strathclyde, Glasgow, UK G1 1XL, UK  
 SO Journal of the Chemical Society, Faraday Transactions (1994), 90(18), 2617-22  
 CODEN: JCFTEV; ISSN: 0956-5000  
 DT Journal  
 LA English  
 AB The polarizabilities and first and second hyperpolarizabilities of the all-trans donor-acceptor substituted polyenes and polyphenyls, for (CH<sub>2</sub>)<sub>2n</sub>-O<sub>2</sub>-CH=CH-OH=CH-n-NO<sub>2</sub> and (CH<sub>3</sub>)<sub>2n</sub>-(C<sub>6</sub>H<sub>4</sub>)<sub>n</sub>-NO<sub>2</sub> have been calculated for values of n = 1 to 9 at a frequency corresponding to 0.65 eV, using a modified CNDO/SR method. A basis set including the 32S singly and doubly excited x-electron configurations obtained from a group of six occupied and four unoccupied Hartree-Fock x orbitals has been used and the polarizabilities and hyperpolarizabilities calculated by the correction vector method. The results are compared with earlier work based on an expansion in terms of a large set of singly excited configurations only. In the case of n = 3 for the polyenes and n = 2 for the polyphenyls calcns. have been carried out with the complete set of m->x configurations for each mol., using both the correction vector method and the sum-over-states expansion. The results confirm the assessment of the quadratic non-linear optical potential of these compds. made in earlier work, although the absolute values of the first hyperpolarizabilities are somewhat reduced.

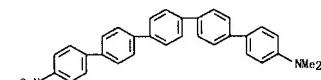
IT 107716-13-2 CAPLUS

RL: PRP (Properties)  
 (polarizabilities and hyperpolarizabilities of all-trans donor-acceptor substituted polyenes and polyphenyls)

RN 107716-13-2 CAPLUS  
 [1,1':4'',1'':4'',1'''-Quaterphenyl]-4-amino, N,N-dimethyl-4'''-nitro- (9Cl) (CA INDEX NAME)

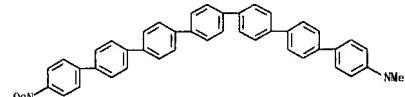


RN 107716-14-3 CAPLUS  
 [1,1':4'',1'':4'',1'''-Quinquephenyl]-4-amino, N,N-dimethyl-4'''-nitro- (9Cl) (CA INDEX NAME)



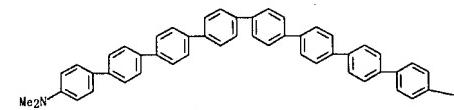
RN 107716-15-4 CAPLUS  
 [1,1':4'',1'':4'',1'''-Quinquephenyl]-4-amino, N,N-dimethyl-4'''-nitro- (9Cl) (CA INDEX NAME)

L5 ANSWER 107 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



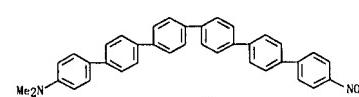
RN 107716-16-5 CAPLUS  
 [1,1':4'',1'':4'',1'''-Octaphenyl]-4-amino, N,N-dimethyl-4'''-nitro- (9Cl) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

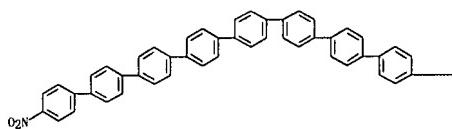
→NO<sub>2</sub>  
 RN 108030-45-1 CAPLUS  
 [1,1':4'',1'':4'',1'''-Sexiphenyl]-4-amino, N,N-dimethyl-4'''-nitro- (9Cl) (CA INDEX NAME)



RN 114261-05-1 CAPLUS  
 [1,1':4'',1'':4'',1'''-Novaphenyl]-4-amino, N,N-dimethyl-4'''-nitro- (9Cl) (CA INDEX NAME)

L5 ANSWER 107 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE I-A



PAGE I-B



L5 ANSWER 108 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1994:591297 CAPLUS

DN 121:191297

TI Electrophotographic photoconductors using triphenylamines and benzidines as charge-transporting agents.

IN Mashita, Kyokazu; Kobayashi, Tomoo; Kamisaka, Tomosumi; Ishii, Tooru;

Hoshizaki, Taketoshi; Kojima, Fusio; Igarashi, Ryosaku

PA Fujixerox Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN. CNT 2

PATENT NO. KIND DATE APPLICATION NO. DATE

|      |                   |    |          |                |             |
|------|-------------------|----|----------|----------------|-------------|
| PI   | JP 06130685       | A  | 19940513 | JP 1992-304406 | 19921019 -- |
|      | JP 278242         | R2 | 19980408 |                |             |
|      | US 5421459        | A  | 19950513 | US 1993-102246 | 19930805 -- |
| PRAI | JP 1992-236320    | A  | 19920813 |                |             |
|      | JP 1992-304406    | A  | 19921019 |                |             |
| OS   | MARPAT 121:191297 |    |          |                |             |
| GI   |                   |    |          |                |             |

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

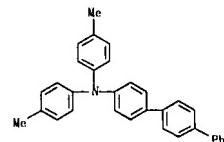
AB The photoreceptors comprise an elec. conductive support coated with a photosensitive layer containing a charge-generating agent, a mixture of triphenylamines I ( $R1=2=H$ , Cl-4 alkyl, alkoxy;  $R3=H$ , Cl-4 alkyl, C6-12 aryl) and benzidines II ( $R4$ ,  $R7=H$ , alkyl, alkoxy, halo;  $R5=6$ ,  $R8=9=H$ , alkyl, alkoxy, halo, substituted amino;  $m$ ,  $n=1-2$ ) as a charge-transporting agent, and a binder resin mainly containing a polycarbonate having a repeating unit III. The photoreceptors show high electron resistance and image transferability.

IT 130965-29-6

RL USES (Uses)  
(electrophotog. photoconductors containing benzidines and, as charge-transporting agent)

RN 130965-29-6 CAPLUS

CN [1,1':4',1'']-Terphenyl]-4-amine, N,N-bis(4-methylphenyl)- (9Cl) (CA INDEX NAME)



L5 ANSWER 109 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1994:591210 CAPLUS

DN 121:191210

TI High sensitivity and durable organic electrophotographic photoreceptor

IN Kikuchi, Norihiro; Senoo, Akihiro; Kanamaru, Tetsuo; Tanaka, Takakazu

PA Canon Kk, Japan

SO Jpn. Kokai Tokkyo Koho, 25 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

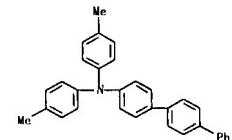
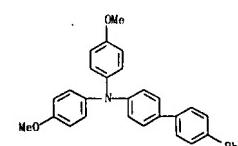
FAN. CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE

|      |             |    |          |                |          |
|------|-------------|----|----------|----------------|----------|
| PI   | JP 05303219 | A  | 19931116 | JP 1992-129425 | 19920423 |
| PRAI | JP 3248627  | R2 | 20020121 |                |          |

PRAI JP 1992-129425  
AB The photosensitive layer of the title photoreceptor contains >2 kinds of aryl amine compds. A1A2NA3 [A=3 (sub)aryl, (sub)heterocyclic] of which 1/2 are the same (<150°). The aryl amine compds. used as charge transport substances having high capability for transporting holes and the photoreceptor shows high sensitivity and voltage stability for repeated use.

IT 130965-29-6 130965-30-9

RL USES (Uses)  
(electrophotog. charge transport substance)RN 130965-29-6 CAPLUS  
[1,1':4',1'']-Terphenyl]-4-amine, N,N-bis(4-methylphenyl)- (9Cl) (CA INDEX NAME)RN 130965-30-9 CAPLUS  
CN [1,1':4',1'']-Terphenyl]-4-amine, N,N-bis(4-methoxyphenyl)- (9Cl) (CA INDEX NAME)

L5 ANSWER 110 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1994:495914 CAPLUS

DN 121:95914

TI Light-sensitive elements for electrophotography

IN Nakamura, Yoichi; Mori, Nobuyoshi; Nagami, Sumitaka

PA Fuji Electric Co., Ltd., Japan

SO 19941118

CODEN: GWXXBX

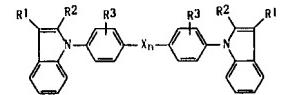
DT Patent

LA German

FAN. CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE

|      |                  |    |          |                 |             |
|------|------------------|----|----------|-----------------|-------------|
| PI   | DE 4315756       | A1 | 19931118 | DE 1993-4315756 | 19930511 -- |
|      | DE 4315756       | C2 | 20000615 |                 |             |
|      | JP 060005295     | A  | 19940204 | JP 1992-177254  | 19920706 -- |
|      | JP 2817822       | R2 | 19981030 |                 |             |
| PRAI | JP 1992-129091   | A  | 19941129 | US 1993-59988   | 19930512 -- |
|      | JP 1992-177254   | A  | 19920514 |                 |             |
| OS   | MARPAT 121:95914 | A  | 19920706 |                 |             |
| GI   |                  |    |          |                 |             |



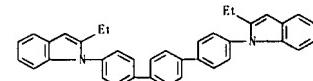
AB Light-sensitive elements for electrophotog. comprise elec. conductive substrates on which are laminated light-sensitive layers which include indole derivs. described by the general formula I (R1 and R2 are selected from H and Cl-9 alkyl, aralkyl, allyl and alkoxy groups with the restriction that R1 and R2 are not both H; R3 is selected from H, halogen atoms, and Cl-3 alkyl and alkoxy groups; X is selected from an oxygen atom or an alkylene, allylene, carbonyl, sulfonyl, sulfanyl, and sulfide groups; and n=0 or 1).

IT 156411-54-0

RL USES (Uses)  
(electrophotog. light-sensitive elements containing)

RN 156411-54-0 CAPLUS

CN 1H-indole, 1,1'-[1,1':4',1'']-Terphenyl]-4,4'-diylbis[2-ethyl]- (9Cl) (CA INDEX NAME)



L5 ANSWER 111 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1994:495697 CAPLUS  
DN 121:05697

TI Photoinduced Intramolecular Electron Transfer in *p*-Polyphenylamines and 1-(*p*-(*N,N*-Dialkylamino)-*p*-polyphenyl)naphthalenes

AU Foley, Michael J.; Singer, Lawrence A.  
CS Department of Chemistry, University of Southern California, Los Angeles, CA, 90089-0744, USA

SO Journal of Physical Chemistry (1994), 98(26), 6430-5

CODEN: JPCMAX; ISSN: 0022-3654

DT Journal

LA English

AB Photoinduced intramol. electron transfer in two series of aromatic amines of the type aryl-(C<sub>6</sub>H<sub>4</sub>)<sub>n</sub>-NR<sub>2</sub>, where aryl is Ph and 1-naphthyl and n = 1-3, has been studied. From the solvatochromic behavior of the fluorescence from these compds., excited state dipole moments ranging from 10.9 to 29.9 D have been measured, suggesting that the emissions occur from charge-transfer states, except in 4-(*N,N*-diethylamino)biphenyl (aryl = phenyl; n = 1). The large quantum yields and short fluorescence lifetimes indicate efficient electronic communication between the donor and acceptor ( $\kappa_t > 10^8$  s<sup>-1</sup>). Good agreement was found between the observed and calculated fluorescence energies in polar solvents using a simple electrostatic model. The results suggest that the Ph rings in the extended systems act as part of the donor or acceptor moieties in electron transfer and are not spacer (or insulating) groups.

IT 139269-37-7, 4-(*N,N*-Diethylamino)*p*-quaterphenyl

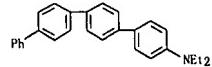
156600-88-3, 4-(*N,N*-Diethylamino)*p*-terphenyl 156600-90-7

RL: PRP (Properties)

(photoinduced intramol. electron transfer in, solvent effect on)

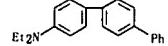
RN 139269-37-7, CAPLUS

CN [1,1':4',1'']-Quaterphenyl]-4-amine, N,N-diethyl- (9CI) (CA INDEX NAME)



RN 156600-88-3, CAPLUS

CN [1,1':4',1'']-Terphenyl]-4-amine, N,N-diethyl- (9CI) (CA INDEX NAME)



RN 156600-90-7, CAPLUS

CN [1,1':4',1'']-Terphenyl]-4-amine, N,N-diethyl-4'-(1-naphthyl)- (9CI) (CA INDEX NAME)

L5 ANSWER 112 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1994:422447 CAPLUS

DN 121:22447

TI Electrophotographic photosensitive member

IN Kanemaru, Tetsuro; Kikuchi, Toshihiro; Senoo, Akio; Tanaka, Takakazu  
PA Canon K. K., Japan

SO Eur. Pat. Appl., 79 pp.

CODEN: EPXDW

DT Patent

LA English

FAN, CNT 1

| PATENT NO.        | KIND | DATE     | APPLICATION NO. | DATE        |
|-------------------|------|----------|-----------------|-------------|
| PI EP 567396      | A1   | 19931027 | EP 1993-401030  | 19930421 -- |
| EP 567396, FR, GB | B1   | 19990721 |                 |             |
| JP 050303220      | A    | 19931116 | JP 1992-129417  | 19920423 -- |
| JP 2798200        | B2   | 19980917 |                 |             |
| JP 050302225      | A    | 19931116 | JP 1992-129421  | 19920423 -- |
| JP 2839053        | B2   | 19981216 |                 |             |
| US 5415962        | A    | 19950516 | US 1993-48526   | 19930420 -- |
| JP 06011868       | A    | 19940121 | JP 1993-97743   | 19930423 -- |
| JP 3155856        | B2   | 20010416 |                 |             |
| CN 1082726        | A    | 19940223 | CN 1993-106367  | 19930423 -- |
| CN 1086231        | B    | 20020612 |                 |             |

PRA1 JP 1992-129417

JP 1992-129421

JP 1992-129426

OS MARPAT 121-22447

AB An electrophotographic photosensitive member is constituted by disposing a photosensitive layer on an electroconductive support. The photosensitive layer is characterized by containing a specific fluoresce compound or by containing another specific fluoresce compound and a specific triphenylene compound. The photosensitive layer is suitable for providing an electrophotog. apparatus showing excellent electrophotog. characteristics such as high photoconductivity, good potential stability in repetitive use, decreased transfer memory, no crack in the photosensitive layer and no crystallization of charge-transporting material.

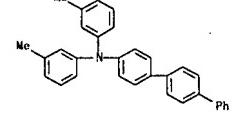
IT 155926-49-1

RL: USES (Uses)

(photosensitive compns. containing, for electrophotog photoreceptors)

RN 155926-49-1, CAPLUS

CN [1,1':4',1'']-Terphenyl]-4-amine, N,N-bis(3-methylphenyl)- (9CI) (CA INDEX NAME)



L5 ANSWER 111 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

DN 120:299908

TI Studies on Bismaleimides and Related Materials. 4. Synthesis and Characterization of New Bismaleimides Based on Terphenyl, Tetraphenylketazine, and Bisphenol A: "Reactive Building Blocks" for Bismaleimides

AU Preston, P. N.; Shah, V. K.; Simpson, S. W.; Soutar, I.; Stewart, N. J.

CS Department of Chemistry, Heriot-Watt University, Riccarton/Edinburgh, EH14 4AS, UK

SO Macromolecules (1994), 27(5), 1147-53

CODEN: MAMORX; ISSN: 0024-9297

DT Journal

LA English

AB New bismaleimides (BMI's) have been synthesized from Bisphenol A, terphenyl, or tetraphenylketazine. In three monomers, an addnl. functionality has been introduced with respect to conventional bismaleimides, e.g. allyl, N-maleimido and ketazine. Cure profiles for new monomers have been determined by dynamic mech. thermal anal. by supporting them on glass braids. Resins have been prepared on a multigram scale and have been studied by thermal gravimetric anal. for evaluation of thermal and thermooxidative stability.

IT 153176-28-4

RL: SPM (Synthetic preparation); PREP (Preparation)

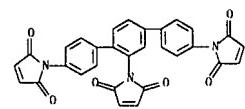
(preparation and curing profiles of)

RN 1H-Pyrole-2,5-dione, 1,1':4',1'':-([1,1':4',1'']-terphenyl]-2',4,4'':-triylires-, homopolymer (9CI) (CA INDEX NAME)

CN 1

CRN 153176-27-3

CMF C30 H17 N3 O6



RN 153176-32-0, CAPLUS

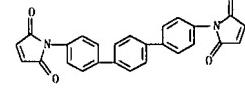
CN 1H-Pyrole-2,5-dione, 1,1':4',1'':-([1,1':4',1'']-terphenyl]-4,4'':-diyl)bis-

homopolymer (9CI) (CA INDEX NAME)

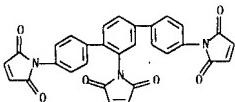
CM 1

CRN 153176-31-9

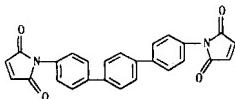
CMF C26 H16 N2 O4



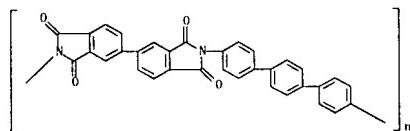
L5 ANSWER 113 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 IT 153176-27-3P 153176-31-0P  
 RL: PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)  
 (preparation and polymerization of)  
 RN 153176-27-3 CAPLUS  
 CN 1H-Pyrrole-2,5-dione, 1,1',1''-((1,1':4',1'''-terphenyl)-2',4,4'''-triyl)tris- (9CI) (CA INDEX NAME)



RN 153176-31-9 CAPLUS  
 CN 1H-Pyrrole-2,5-dione, 1,1'-((1,1':4',1'''-terphenyl)-4,4'''-diyl)bis- (9CI) (CA INDEX NAME)

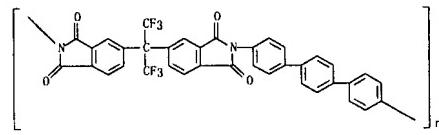


L5 ANSWER 115 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1994-2181-2 CAPLUS  
 DN 120-299799 CAPLUS  
 TI Rod-like fluorinated and nonfluorinated polyimides based on 4,4'''-diamino-p-terphenyl  
 AU Auman, Brian C.  
 CS E.I. Du Pont de Nemours and Co. Inc., Wilmington, DE, 19880-0336, USA  
 SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1993), 34(1), 443-444  
 CODEN: ACPAY; ISSN: 0032-3934  
 DT Journal  
 LA English  
 AB Rigid, rodlike fluorine-containing and nonfluorinated polyimides based on 4,4'''-diamino-p-terphenyl were prepared that had very low coeffs. of thermal expansion, low moisture absorption, and low dielectric constant. The nonfluorinated polyimides had lower moisture absorption than the fluorinated polyimides, which was proposed to be due to a free volume effect. The thermal stabilities of these polyimides was high, with 5% weight loss of all samples being close to 500° or higher; and the glass transition temps. were also very high because of the very stiff structures. The mol. wts. of the intermediate polyamic acids were characterized by gel permeation chromatog.  
 IT 26402-03-9P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (preparation and properties of)  
 RN 26402-03-9 CAPLUS  
 CN Poly[(1,1',3,3'''-tetrahydro-1,1',3,3'''-tetraoxo[5,5''-bi-2H-isoindole]-2,2'''-diyl)(1,1':4',1'''-terphenyl)-4,4'''-diyl] (9CI) (CA INDEX NAME)



L5 ANSWER 114 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1994-299799 CAPLUS  
 DN 120-299799 CAPLUS  
 TI Calculation of refractive indices of polyimides and their molecular packing  
 AU Ando, Shinji  
 CS MTT Interdiscip. Res. Lab., Musashino, 180, Japan  
 SO Kobunshi Ronbunshu (1994), 51(4), 251-7  
 CODEN: KBRBA3; ISSN: 0386-2186  
 DT Journal  
 LA Japanese  
 AB Refractive indexes at 589.3 nm of 19 polyimides were measured using an Abbe refractometer and calculated from their Van der Waals vols. and mol. polarizabilities. The calculated refractive index when the packing coefficient was assumed to be 0.681 shows a linear relationship with the measured index ( $n$ ) with a square correlation coefficient of 0.900. However, the slope considerably deviates from 1.0, which indicates that the mol. packing of polyimides changes according to their mol. structure. Packing coeffs. ( $K_p$ ) of polyimides are estimated by comparing  $n$  with calculated parameter  $\Phi_0$ . The mol. chains with high  $\Phi_0$  values, such as a planar structure of pyromellitic dianhydrides or ether linkages lead to high  $K_p$ . In contrast, the mol. chains of polyimides with low  $n$  are loosely packed, and trifluoromethyl groups cause a decrease of interchain interaction and a intra-chain steric hindrance that inhibits mol. packing.

IT 113245-49-1  
 RL: PRP (Properties)  
 (Van der Waals volume and mol. polarizabilities and refractive indexes of calc'd. and measuring of)  
 RN 113245-49-1 CAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)][1,1':4',1'''-terphenyl]-4,4'''-diyl] (9CI) (CA INDEX NAME)

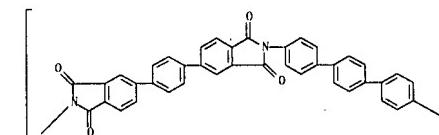


L5 ANSWER 115 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1994-135440 CAPLUS  
 DN 120-135440 CAPLUS  
 TI Preparation of polyimide precursors and polyimides manufactured therefrom  
 IN Togawa, Hideo; Shoji, Fusaji; Kataoka, Fumio; Sato, Tonobu  
 PA Hitachi Ltd, Japan  
 SO Jpn. Kokai Tokkyo Koho, 15 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese  
 FAN. CNT 2  
 PATENT NO. KIND DATE APPLICATION NO. DATE  
 PI JP 05132554 A 19930528 JP 1990-279072 19901019 <--  
 US 5272247 A 19931221 US 1991-779986 19911021 <--  
 PRAI JP 1990-279072 A 19901019  
 JP 1991-225634 A 19910905  
 AB The title precursors, useful for manufacture of polyimides with good heat resistance and low dielec. constant, are prepared by polycondensation of terphenyltetracarboxylic acid dianhydrides with aromatic diamines. Thus, heating bis[4-(4-aminophenoxy)phenyl] ether 0.0074, p-diaminoterphenyl 0.0074, and p-terphenyl-3,3',4,4'''-tetracarboxylic acid dianhydride 0.0148 mol in 1:1 AcMe2-N-methylpyrrolidone mixture at 60-70° for 5 h gave a varnish having viscosity 50 P, which was applied on a Si wafer, and heated 30 min at 200° and 350°, resp., to give a film having Young's modulus 420 kg/mm<sup>2</sup>, glass temperature 400°, 3%-weight loss temperature 550°, and dielec. constant (10 kHz, 25°) 32.7.  
 IT 147862-91-5P  
 RL: PREP (Preparation)  
 (preparation of films, with low dielec. constant, heat-resistant)

RN 147862-91-5 CAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)-1,4-phenylene(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)[1,1':4',1'''-terphenyl]-4,4'''-diyl] (9CI) (CA INDEX NAME)

PAGE 1-A



L5 ANSWER 116 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-B

L5 ANSWER 117 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1994:56370 CAPLUS

DN 120-56662

TI A new class of laser dyes from acridinedione derivatives

AU Shanmugasundaram, Palanisamy; Prabahar, K. Joseph; Ramakrishnan,

Vayalakkavoor T.

CS Dep. Org. Chem., Univ. Madras, Madras, 600 025, India

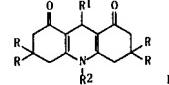
SO Journal of Heterocyclic Chemistry (1993), 30(4), 1003-7

CODEN: JHTCAB ISSN: 0022-152X

DT Journal

LA English

GI



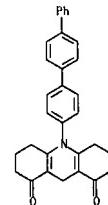
AB The synthesis of I ( $R = H, Me; R1 = H, Me, Ph, 2-C10H4, PhCH2; R2 = Ph, 4-MeC6H4, 4-C10H4, 4-NoC6H4, 4-Me2NC6H3, 2,6-C10H4, 4-O2NC6H4, 2,4,6-Me2BrC6H3, o-naphthyl, p-terphenyl, 2-MeC6H4, 2-C10H4$ ) as a new class of laser dyes is reported. These dyes lase around 475-495 nm and are compared to the standard dye Coumarin 102.

IT 152129-21-0 PREP (Preparation)

RL: SPN (Synthetic preparation); PREP (Preparation)

RN 152129-21-0 CAPLUS

CN 1,8(2H,5H)-Acridinedione, 3,4,6,7,9,10-hexahydro-10-[1,1':4',1'':-terphenyl]-4-yl- (9CI) (CA INDEX NAME)



L5 ANSWER 118 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1994:56370 CAPLUS

DN 120-56370

TI Polyimides for interlayer insulation films, their precursors, and circuit structures

IN Tagawa, Hideo; Shoji, Fusaji; Kataoka, Fumio

PA Hitachi Ltd., Japan

SO Jon. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

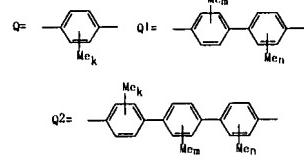
FAN, CNT 2

| PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE        |
|----------------|------|----------|-----------------|-------------|
| P1 JP 05230213 | A    | 19930907 | JP 1992-33150   | 19920220 -- |
| JP 3079740     | B2   | 20000222 |                 |             |
| US 5536584     | A    | 19950716 | US 1993-11493   | 19930129 -- |

PRAI JP 1992-33150 A 19920131

JP 1992-33150 A 19920220

G1



AB Polyamic acids containing repeating units  $NHCOR1(CO2H)2CONIR2$  ( $R1 = \text{organic group}; R2 = Q, Q1, Q2; k, m, n = 0-4; 2 \leq k, m, n \neq 0$ ), polyimides prepared by thermal dehydration of the polyamic acids, and circuit structures using the polyimides as interlayer insulating films are claimed. Thus, treating 13.0 g 3,3'-dimethyl-4,4'-diaminobiphenyl with 18.02 g biphenyl-3,3',4,4'-tetracarboxylic dianhydride in  $\text{AcMe}_2\text{-N-methyl-2-pyrrolidone}$  mixture at 55-60°C gave polyamic acid varnish, which was applied on a glass substrate and heated to 300°C for 30 min and to 350°C for 10 min to give a polyimide film showing sp. dielectric constant 2.8, glass transition temperature >400°C, and thermal expansion coefficient 7  $\mu\text{m}/\text{m}^{\circ}\text{C}$ . A multilayered printed circuit board was manufactured using the polyimide as the interlayer insulating film, in which the insulating layer was ashed under 0 at 0.5 torr. No cracks nor interlayer peeling was observed

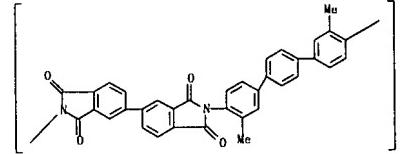
IT 152196-93-5P

RL: PREP (Preparation)  
(preparation of, as interlayer insulating films for multilayered printed circuit boards)

RN 152196-93-5 CAPLUS

CN Poly[1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isindole]-2,2'-diyl] (3,3'-dimethyl[1,1':4',1'':-terphenyl]-4,4'-diyl) (9CI) (CA INDEX NAME)

L5 ANSWER 118 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L5 ANSWER 119 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1993-650764 CAPLUS  
 DN 119-250764

TI Macromonomers having reactive end groups  
 IN Gagné, Robert R.; Marrocco, Matthew Louis; III; Trimmer, Mark Steven;  
 Hendrie, Neil H.  
 PA Mardam Inc., USA  
 SO PCT Int. Appl., 100 pp.  
 CODEN: PIXXD2

DT Patent

LA English

FAN CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE

|   |    |          |                 |              |
|---|----|----------|-----------------|--------------|
| PI WO 9304099   | A1 | 19930304 | WO 1992-US5889  | 19920714 <-- |
| W: CA, JP, KR<br>RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE |    |          |                 |              |
| US 5394566  | A  | 19941213 | US 1995-746911  | 19910819 <-- |
| CA 2115143  | C  | 20021119 | CA 1992-2115143 | 19920214 <-- |
| EP 5098868  | A1 | 19940508 | EP 1992-916566  | 19920714 <-- |
| EP 5098868  | B1 | 20010321 |                 |              |
| R: DE, FR, GB, IT, NL   |    |          |                 |              |
| JP 06510315   | T  | 19941117 | JP 1993-504293  | 19920714 <-- |
| JP 3245163  | R2 | 20020107 |                 |              |
| US 5670564  | A  | 19970923 | US 1995-457092  | 19950601 <-- |
| US 5824744  | A  | 19981020 | US 1995-457268  | 19950601 <-- |
| US 5827927  | A  | 19981027 | US 1996-645914  | 19960514 <-- |
| US 5973075  | A  | 19991026 | US 1998-93746   | 19980608 <-- |
| PRAI US 1991-746917   | A  | 19910819 |                 |              |
| WO 1992-US5889  | W  | 19920714 |                 |              |
| US 1994-331144  | H3 | 19941027 |                 |              |
| US 1995-457268  | A3 | 19950601 |                 |              |

AB Rigid-rod macromonomers having a polyarom. backbone, solubilizing side groups, and reactive end groups are prepared and chemically incorporated into polymer systems to provide strong, stiffened polymers. Thus, stirring 6.94 mmol 2,5-dichloro-4'-methylbenzophenone and 1.88 mmol Me<sub>3</sub>SiClB(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub> with bis(triphenylphosphine)nickel(II) chloride 0.77, PPh<sub>3</sub> 1.55, NaI 1.55, and activated Zn powder (5.3 mmol) in N-methylpyrrolidinone at 50° for 18 h gave a macromonomer with weight-average mol. weight 14,000 and polydispersity 1.4.

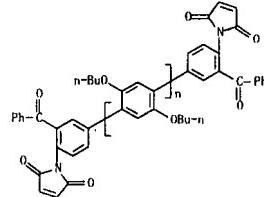
IT 151172-65-5P 151172-66-6P

RL: PREP (Preparation)  
 (macromonomer, preparation and polymerization of, for manufacture of stiffened thermoplastics)

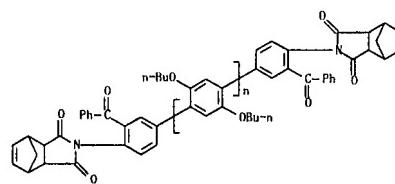
RN 151172-65-5 CAPLUS

CN Poly(2,5-dibutoxy-1,4-phenylene), *a*,*w*-bis[3-benzoyl-4-(2,5-dihydro-2,6-dioxo-3H-pyrrol-1-yl)phenyl]- (9CI) (CA INDEX NAME)

L5 ANSWER 119 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 151172-66-6 CAPLUS  
 CN Poly(2,5-dibutoxy-1,4-phenylene), *a*,*w*-bis[3-benzoyl-4-(1,3,3a,4,7,7a-hexahydro-1,3-dioxo-4,7-methano-2H-isocindol-2-yl)phenyl]- (9CI) (CA INDEX NAME)



L5 ANSWER 120 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1992-490826 CAPLUS  
 DN 119-82826

TI Electrophotographic photosensitive member and electrophotographic apparatus, device unit and facsimile machine using the same  
 IN Maruyama, Akio; Kikuchi, Toshihiro; Amamiya, Shoji; Nagahara, Shin; Aoki, Keisuke; Tsuji, Haruyuki  
 PA Canon K. K., Japan  
 SD Eur. Pat. Appl. 67 pp.  
 CODEN: EPXXDW

DT Patent

LA English

FAN CNT 2

PATENT NO. KIND DATE APPLICATION NO. DATE

|              |    |          |                |              |
|--------------|----|----------|----------------|--------------|
| PI EP 504794 | A1 | 19920923 | EP 1992-104575 | 19920317 <-- |
| EP 504794    | B1 | 19980603 |                |              |

R: DE, FR, GB

PRAI JP 1991-77290

A 19910318

JP 1991-77291

A 19910318

JP 1991-77292

A 19910318

OS MARPAT 119-82826

AB The title material comprises a conductive support, a photosensitive layer and a protective layer, the protective layer containing resin formed by hardening a light-setting type acrylic monomer, and the photosensitive layer containing  $\Sigma 1$  compound selected from the group consisting of (A), (B) and (C) below: (A) styryl compds. having a structure Ar1Ar2NAr3(C(=O)R2)Ar1 and a m.p.  $\leq 135^\circ$ . [Ar1 and Ar2 are aromatic ring groups, Ar3 is a bivalent aromatic ring group or a bivalent heterocyclic group, R1 is an alkyl group or an aromatic ring group, R2 is a H atom, an alkyl group or an aromatic ring group, and n is 1 or 2, R1 and R2 possibly linking to form a ring when n = 1]; (B) triarylmethane compds. having a structure Ar4Ar5Ar6-C(=O)-Ar4 and a m.p.  $\leq 150^\circ$ ; (A4=Ar1, Ar5=Ar2, Ar6=Ar3); (C) hydrazone compds. having a structure Ar7(C(=O)R8)-NNAr9Ar10 [R3 is a H atom or an alkyl group, R4 and R5 are alkyl groups, aralkyl groups or aromatic ring groups, n is 1 or 2, Ar7 is an aromatic ring group, a heterocyclic group, or -CH=CR67 (R6 and R7 are H atoms, aromatic ring groups or heterocyclic groups, but will never be H atoms at the same time). The photosensitive member suppresses the occurrence of cracks during forming of the protective layer, has high durability, and is free from any image defects.

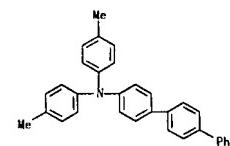
IT 130965-29-6

RL: USES (Uses)

(electrophotog. plate with protective layer containing, for crack reduction)

RN 130965-29-6 CAPLUS

CN [1,1'-4',1''-Terphenyl]-4-amine, N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



L5 ANSWER 121 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1992-450151 CAPLUS

DN 119-50151

TI Heat-resistant polyimides with low moisture absorption and dielectric constant

IN Okada, Yoshifumi  
 PA Kanegafuchi Chemical Industry Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

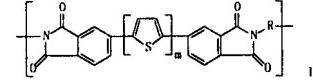
FAN CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE

|                |    |          |               |              |
|----------------|----|----------|---------------|--------------|
| PI JP 04306233 | A  | 19921029 | JP 1991-98172 | 19910402 <-- |
| JP 2729708     | R2 | 19980318 |               |              |

PRAI JP 1991-98172

G1



AB Title polyimides has thiophene-containing structural units I (R = bivalent organic residue; n = 1-3). Thus, equimol. 2,2-bis[4-(4-carboxyphenyl)hexafluoropropane and 2,5-bis(3,4-dicarboxyphenyl)thiophene dihydriodide were mixed for 1 h at approx. 0° in DMF to obtain a solution, which was cast on a glass plate, dried at approx. 100° for approx. 60 min, and then the formed polyamic acid film was heated at 100-300° for approx. 150 min to obtain a 25-μm polyimide film showing water absorption 0.2%, dielectric constant 2.5, and coefficient of thermal expansion  $2.2 \times 10^{-2}/^\circ\text{C}$ .

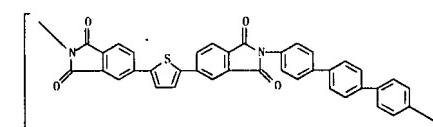
IT 148627-22-9P

RL: PREP (Preparation)  
 (preparation of, heat-resistant, with low moisture absorption and dielectric constant)

RN 148627-22-9 CAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)-2,5-thiophenediyl](1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)[1,1':4',1''-Terphenyl]-4,4'-diyl] (9CI) (CA INDEX NAME)

PAGE 1-A



L5 ANSWER 121 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-B

L5 ANSWER 122 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1993-410094 CAPLUS

DN 119-10094

TI Low-viscosity blocked isocyanate-tetracarboxylic acid dianhydride

varnishes and their use as interlayer electrical insulators in

semiconductor device manufacture

IN Shimanogi, Hisae; Miwa, Takao; Okabe, Yoshiaki; Numata, Shunichi; Ikeda,

Takae; Fujisaki, Koji; Tawata, Rio

PA Hitachi, Ltd., Japan; Hitachi Chemical Co., Ltd.

SO Jpn. Kokai Tokkyo Koho. 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN. CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE

PI JP 04283234 A 19921008 JP 1991-44621 19910311 &lt;-

PRA1 JP 1991-44621 19910311

AB The varnishes, having viscosity 50-1 P, are prepared from aromatic tetracarboxylic acid dianhydrides and blocked isocyanates PhO<sub>2</sub>C(=O)NHC(=O)O<sub>2</sub>Ph (1; 2 = divalent organic group) in equimolar ratio. Thus, a varnish (viscosity 0.05 P), prepared by reacting 1 (2 = p-C<sub>6</sub>H<sub>4</sub>) with pyromellitic dianhydride in N-methylpyrrolidone, was made into a film having dielectric constant 3.5, 3K-weight-loss temperature 480°, and good flatness.

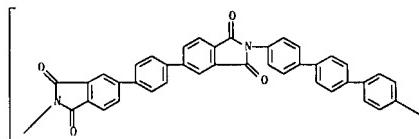
IT 147862-81-5 CAPLUS

RL: USES (Uses) (interlayer elec. insulating films, for semiconductor devices, flat, heat-resistant)

RN 147862-81-5 CAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)-1,4-phenylene(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)[1,1':4',1"-terphenyl]-4,4'-diyl] (9Cl) (CA INDEX NAME)

PAGE 1-A



L5 ANSWER 122 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-B

L5 ANSWER 123 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1993-263236 CAPLUS

DN 118-263236

TI Theoretical study of the nonlinear optical second-order susceptibilities of (CH<sub>3</sub>)<sub>2</sub>N(C<sub>6</sub>H<sub>4</sub>)<sub>n</sub>CN series molecules

AU Yu, Hongshi; Feng, Jikang; Li, Jun; Li, Zhiru

CS Dep. Chem., Jilin Univ., Changchun, 130023, Peop. Rep. China

SO Huxxu, Xuebao (1993), 51(4), 334-40

CODEN: IJHPA4; ISSN: 0567-7351

DT Journal

LA Chinese

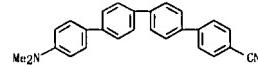
AB Based on AM1 and INDO/CI methods, using the program for calcns. of the nonlinear optical second-order susceptibilities (β<sub>ijkl</sub>, (B<sub>ijkl</sub>) and (B<sub>kl</sub>) were calculated for (CH<sub>3</sub>)<sub>2</sub>N(C<sub>6</sub>H<sub>4</sub>)<sub>n</sub>CN series mol., n = 1 → 6. A systematic study is reported of the effect of conjugation length on the mol. nonlinear optical second-order susceptibilities and investigated the laser frequency dependences (dispersions) of (μ<sub>ab</sub>) are discussed.

IT 130447-14-2 147951-61-9 147951-62-0

RL: PRP (Properties) (nonlinear second-order susceptibility of, calcns. for)

RN 130447-14-2 CAPLUS

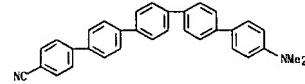
CN {1,1':4',1":4",1'''-Quaterphenyl]-4-carbonitrile, 4'''-(dimethylamino)-(9Cl) (CA INDEX NAME)



RN 147951-61-9 CAPLUS

CN {1,1':4',1":4",1'''-4'''',1'''''-Quinquephenyl]-4-carbonitrile,

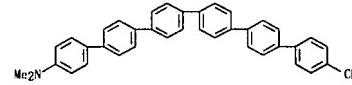
{4'''-(dimethylamino)-(9Cl) (CA INDEX NAME)}



RN 147951-62-0 CAPLUS

CN {1,1':4',1":4",1'''-4'''',1'''''-Sexiphenyl]-4-carbonitrile,

{4'''-(dimethylamino)-(9Cl) (CA INDEX NAME)}



LS ANSWER 124 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1993-192534 CAPLUS  
 DN 118-192534

TI Heat-resistant polyimide with reduced hygroscopicity and dielectricity  
 IN Okada, Yoshifumi  
 PA Kanegafuchi Chemical Industry Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF

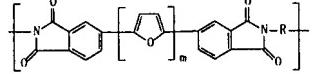
DT Patent

LA Japanese

FAN CNT 1

| PATENT NO.         | KIND | DATE     | APPLICATION NO. | DATE         |
|--------------------|------|----------|-----------------|--------------|
| JP 04306234        | A    | 19921029 | JP 1991-98173   | 19910402 <-- |
| JP 2724424         | B2   |          | 19980309        |              |
| PRAI JP 1991-98173 |      |          |                 |              |

GI



AB Title polyimides have furan-containing structural units I (R = bivalent organic residue: m = 1-3). Thus, equimol. 2,2-bis[4-(4-aminophenoxy)phenyl]hexafluoropropane and 2,5-bis(phthalic anhydrido-3')furan were mixed for 1 h at .apprx.0° in DMF to obtain a solution, which was cast on a glass plate, dried at .apprx.100° for .apprx.60 min, and then the formed polyamic acid film was treated at 100-300° for .apprx.150 min to obtain a 25-μm polyimide film showing water absorption 0.2% (ASTM D570), dielec. constant 2.5, and coefficient of thermal expansion 2.3 × 10-27.

IT 147187-05-IP

RL (Synthetic preparation)  
 Preparation of heat-resistant, with reduced hygroscopicity and low dielectricity)

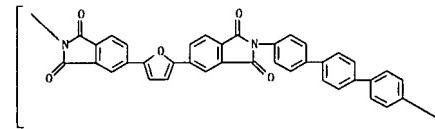
RN 147187-05-1 CAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)-2,5-furandiy1(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)[1,1':4',1''-terphenyl]-4,4'-diyl] (9Cl) (CA INDEX NAME)

LS ANSWER 124 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 AN 1993-192534 CAPLUS  
 DN 118-192534

PAGE 1-B

PAGE 1-A



LS ANSWER 125 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1993-157808 CAPLUS

DN 118-157808

TI Electrophotographic photoreceptor

IN Matsunaga, Yoshihi; Sugimoto, Yasushi; Hayashida, Shigeru; Ishikawa, Hiroko  
 PA Hitachi Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

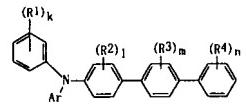
DT Patent

LA Japanese

FAN CNT 1

| PATENT NO.         | KIND | DATE     | APPLICATION NO. | DATE         |
|--------------------|------|----------|-----------------|--------------|
| JP 04276760        | A    | 19921001 | JP 1991-38350   | 19910305 <-- |
| PRAI JP 1991-38350 |      |          |                 |              |

GI



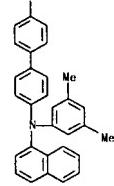
AB The title photoreceptor contains a naphthylamine compound represented by I. For I, Ar = (substituted) naphthyl ring; R1, R4 = H, halo, (substituted) alkyl, alkoxy, etc.; R2, R3 = H, halo, (substituted) alkyl, alkoxy; k, n = 1 to 5; 1, m = 1 to 4. The title photoreceptor shows high sensitivity.

IT 146133-67-7

RL (Uses)  
 (Electrophotographic photoreceptor containing)

RN 146133-67-7 CAPLUS

CN 1-Naphthylamine, N-(3,5-dimethylphenyl)-N-[1,1':4',1''-terphenyl]-4-yl- (9Cl) (CA INDEX NAME)



LS ANSWER 126 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1993-101258 CAPLUS

DN 118-101258

TI Tris(biphenyl-4-yl)amine and tris(p-terphenyl-4-yl)amine as a novel class of molecules for amorphous molecular materials

AU Higuchi, Akiji; Ohnishi, Katsuhei; Nomura, Saoyuki; Inada, Hiroshi;

CS Fac. Eng., Osaka Univ., Suita, 565, Japan

SO Journal of Materials Chemistry (1992), 2(10), 1109-10

CODEN: JMACEP; ISSN: 0959-9428

DT Journal

LA English

OS CASREACT 118:101258

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AR Starburst precursor mol. based on  $\pi$ -electron systems, R3N [R = biphenyl-4-yl (I), p-terphenyl-4-yl (II)] constitute a new class of amorphous mol. materials with relatively high glass-transition temps. of 76 and 132°, resp.

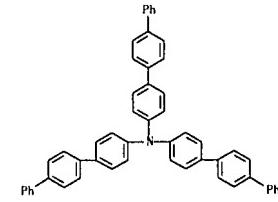
IT 145693-79-4

RL: SPN (Synthetic preparation); PREP (Preparation)

(Preparation and glass-transition temperature of)

RN 145693-79-4 CAPLUS

CN [1,1':4',1''-Terphenyl]-4-amine, N,N-bis([1,1':4',1''-terphenyl]-4-yl)- (9Cl) (CA INDEX NAME)



L5 ANSWER 127 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1993-90270 CAPLUS  
 DN 118-59961

TI Organic electroluminescent device  
 Sato, Yoshiharu; Otsuka, Shigenori  
 PA Mitsubishi Kasei Corp., Japan  
 SO Eur. Pat. Appl., 18 pp.  
 CODEN: EPXDW

DT Patent  
 LA English  
 FAN CNT 1

| PATENT NO. | KIND | DATE     | APPLICATION NO. | DATE        |
|------------|------|----------|-----------------|-------------|
| EP 510541  | A1   | 19921028 | EP 1992-106677  | 19920416 <- |
| EP 510541  | B1   | 19951227 |                 |             |

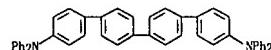
R- DE, FR, GB, NL  
 JP 04320494 A 19921111 JP 1991-88444 19910419 <-  
 JP 2099268 B2 20000111  
 US 5247226 A 19930921 US 1992-870310 19920417 <-  
 PRATI JP 1991-88444 A 19910419  
 MARPAT 118-90270  
 AB Electroluminescent devices comprising an anode, an organic hole injection transport layer, an organic luminescent layer, and a cathode are described in which the hole injection transport layer contains a metal complex and/or a metal salt of an aromatic carboxylic acid.

IT 145898-89-1

RL: PPR (Properties)  
 (electroluminescent devices with metal salt-containing hole injection layers containing)

RN 145898-89-1 CAPLUS

CN [1,1':4',1''-4'',1'''-Quaterphenyl]-4,4'''-diamine, N4,N4,N4'',N4'''-tetraphenyl- (CA INDEX NAME)



L5 ANSWER 128 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1993-59961 CAPLUS  
 DN 118-59961

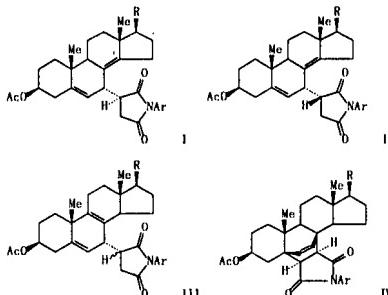
TI Competitive Diels-Alder and ene addition of N-arylmaleimides to 7-dehydrocholesteryl acetate

AU Leigh, William J.; Hughes, Donald W.; Mitchell, D. Scott  
 CS Dep. Chem., McMaster Univ., Hamilton, ON, L8S 4M1, Can.  
 SO Canadian Journal of Chemistry (1992), 70(11), 2730-44  
 CODEN: CJCHAC ISSN: 0008-4042

DT Journal

LA English

GI

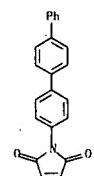


AB Thermolysis of N-phenyl-, N-para-biphenyl-, and N-para,para'-terphenylmaleimide with 7-dehydrocholesteryl acetate in benzene solution at 200° yields mixts. of four cycloadducts I (R = CBH17, Ar = Ph, p-biphenyl, p,p'-terphenyl), II (R, Ar as above), III (R, Ar as above), and IV (R, Ar as above) in relative yields that are essentially independent of the maleimide substituent. The three major products I-III are those of one addition to C7 of the steroid with abstraction of the proton at C9 or C10. The fourth product, the Diels-Alder adduct, is formed in minor proportion. The structures of these products have been elucidated on the basis of one- and two-dimensional <sup>1</sup>H- and <sup>13</sup>C-NMR spectroscopic techniques, including homonuclear <sup>1</sup>H decoupling, NOE, <sup>1</sup>H-<sup>1</sup>H COSY, heteronuclear <sup>1</sup>H-<sup>13</sup>C shift correlation, and TOCSY 2-<sup>1</sup>H expt., and the results of mol. mechanics (MM) calcs. The combination of these techniques has made it possible to almost completely assign the <sup>1</sup>H and <sup>13</sup>C NMR spectra of two of the ene adducts I and II and the Diels-Alder adduct from reaction of 7-dehydrocholesteryl acetate with N-phenylmaleimide.

IT 141171-23-5

RL: RCT (Reactant): RACT (Reactant or reagent)  
 (competitive ene and Diels-Alder reaction of, with dehydrocholesteryl acetate)

L5 ANSWER 128 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 RN 141171-23-5 CAPLUS  
 CN [1H-Pyrrole-2,5-dione, 1-(1':4',1''-terphenyl)-4-yi- (9CI) (CA INDEX NAME)

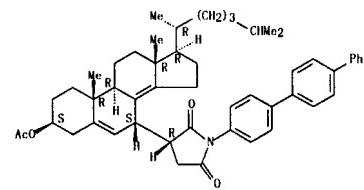


IT 141171-24-6P 141171-26-8P 141171-28-OP

141171-30-4P  
 RL: SPN (Synthetic preparation): PREP (Preparation)  
 (preparation of)

RN 141171-24-6 CAPLUS  
 CN 2,5-Pyrrolidinedione, 3-[{(3B,7a)-3-(acetoxy)cholesta-5,8(14)-dien-7-yl}-1-[1,1':4',1''-terphenyl]-4-yi-, (R)- (9CI) (CA INDEX NAME)

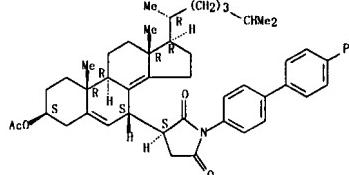
Absolute stereochemistry.



RN 141171-26-8 CAPLUS  
 CN 2,5-Pyrrolidinedione, 3-[{(3B,7a)-3-(acetoxy)cholesta-5,8(14)-dien-7-yl}-1-[1,1':4',1''-terphenyl]-4-yi-, (S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

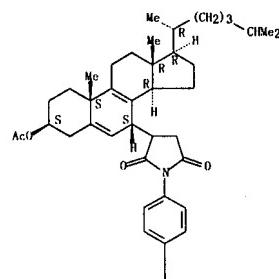
L5 ANSWER 128 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 141171-28-0 CAPLUS  
 CN 2,5-Pyrrolidinedione, 3-[{(3B,7a)-3-(acetoxy)cholesta-5,8(14)-dien-7-yl}-1-[1,1':4',1''-terphenyl]-4-yi-, (R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

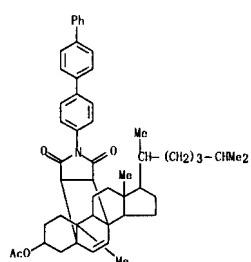


PAGE 2-A



RN 141171-30-4 CAPLUS  
 CN 1H,4H-3b,12b-Ethenobenz[e]indeno[5,4-g]isoindole-1,3(2H)-dione, 5-(acetoxy)-10-(1,5-dimethylhexyl)-3n,5,6,7,7b,8,9,9a,10,11,12,12a,12c-tetradecahydro-7n,9a-dimethyl-2-[1,1':4',1''-terphenyl]-4-yi-

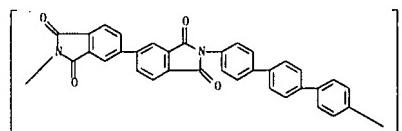
L5 ANSWER 128 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 AN 1992:409265 CAPLUS  
 DN 117:8265  
 TI Organic reactions in liquid-crystalline solvents. Regiochemical control of bimolecular pericyclic reactions by cholesteric and smectic liquid-crystalline solvents



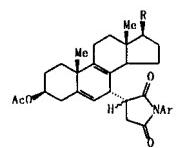
L5 ANSWER 128 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1992:552016 CAPLUS  
 DN 117:152016  
 TI Mechanical properties and methods of preparation of high-modulus films from polyimide compositions  
 AU Smirnova, V. E.; Reznikov, M. I.; Skilzko, V. P.; Nekrasova, E. M.  
 CS Inst. Vysokomolekulyarnye Soedineniya, Russia  
 SO Vysokomolekulyarnye Soedineniya, Seriya A (1991), 33(11), 2445-51  
 CODEN: VYSAAF; ISSN: 0507-5475  
 DT Journal  
 LA Russian  
 AB Compsns. containing mixts. of polyamic acids based on benzene-tetracarboxylic acid or biphenyltetracarboxylic acid and aromatic diamines or block polyamic acids were prepared. orientational stretching and thermocyclization were performed, and mech. properties of polyimide films were studied. The most high-modulus and high-orientational films were obtained from block polyamic acids with low content of rigid-chain fragments or with 2 different rigid chain fragments. The same type of compns. showed the highest sol orientation during thermocyclization.

IT 26402-03-9  
 RL: PRP (Properties)  
 (preparation of high-modulus films from)

RN 26402-03-9 CAPLUS  
 CN Poly[1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo{5,5'-bi-2H-isindole}-2,2'-diyl][1,1':4',1''-terphenyl]-4,4''-diyl] (9Cl) (CA INDEX NAME)



L5 ANSWER 130 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 AN 1992:409265 CAPLUS  
 DN 117:8265  
 TI Organic reactions in liquid-crystalline solvents. Regiochemical control of bimolecular pericyclic reactions by cholesteric and smectic liquid-crystalline solvents  
 AU Leigh, William J.; Mitchell, D. Scott  
 CS Dep. Chem., McMaster Univ., Hamilton, ON, L8S 4M1, Can.  
 SO Journal of the American Chemical Society (1992), 114(13), 5005-10  
 CODEN: JACSAT; ISSN: 0002-7863  
 DT Journal  
 LA English  
 OS CASREACT 117:8265  
 GI

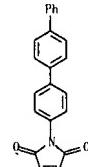


AB The cyclodaddn. reactions of N-Ph, N-para-biphenyl, and N-para, para'-terphenylmaleimide with 7-dehydrocholesteryl acetate have been carried out in the isotropic and cholesteric liquid crystalline phases of a series of steroidal mesogens, and in the isotropic, smectic A, and smectic B phases of 4,4'-dialkylbiphenyl mesogens at temps. between 180 and 240°. In isotropic solvents, mixts. of four cycloducts are obtained, in relative yields that are essentially independent of the maleimide substituent. The three major products (two ene-adducts and one Diels-Alder adduct) are formed via transition states in which the long mol. axes of the reactants are oriented perpendicular to one another, while the fourth (minor) product is an ene-adduct formed via a transition state with a parallel relative orientation of the reactants' long mol. axes. The relative yield of the latter product is enhanced when the reaction is carried out in cholesteric or smectic liquid crystalline solvents, to an extent which correlates with both the degree of orientation imposed by the liquid crystal and the molar ratio of the N-arylmaleimide employed. For example, this adduct [1; R = CH<sub>17</sub>; Ar = (n-C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>BPh] is the major product of reaction of N-*p,p'*-terphenylmaleimide with 7-dehydrocholesteryl acetate in the cholesteric phase of cholestryl p-chlorobenzoate at 200°. Studies of the temperature dependence of the product distributions afford ests. of the differences in enthalpy and entropy between parallel and perpendicular transition states in the cholesteric phase. The effect of the smectic B phase on the activation parameters appears to be smaller than that of the cholesteric phase; it is suggested that this is due to poor solubility of the reactants in the smectic phase, which leads to complex variations in reactant solubilization and reactivity as a function of temperature. The smectic A phase of this mesogen exerts much greater control on reactivity than the cholesteric phase at 240°.

IT 141171-23-5  
 RL: RCT (Reactant or reagent)  
 cyclodaddn. and one reactions of, with dehydrocholesteryl acetate in liquid-crystalline solvents, regiochem. of)

RN 141171-23-5 CAPLUS  
 CN III-Pyrrole-2,5-dione, 1-[1,1':4',1''-terphenyl]-4-yl- (9Cl) (CA INDEX NAME)

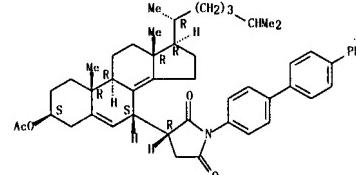
L5 ANSWER 130 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 AN 1992:409265 CAPLUS  
 DN 117:8265  
 TI Organic reactions in liquid-crystalline solvents. Regiochemical control of bimolecular pericyclic reactions by cholesteric and smectic liquid-crystalline solvents



IT 141171-24-6P 141171-26-8P 141171-28-0P  
 141171-30-4P  
 RL: SPN (Synthetic preparation): PREP (Preparation)  
 (preparation of)

RN 141171-24-6 CAPLUS  
 2,5-Pyrrolidinedione, 3-[(3β,7α)-3-(acetoxy)cholesta-5,8(14)-dien-7-yl]-1-[1,1':4',1''-terphenyl]-4-yl-, (R)- (9Cl) (CA INDEX NAME)

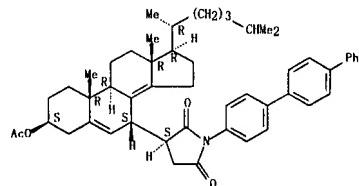
Absolute stereochemistry.



RN 141171-26-8 CAPLUS  
 CN 2,5-Pyrrolidinedione, 3-[(3β,7α)-3-(acetoxy)cholesta-5,8(14)-dien-7-yl]-1-[1,1':4',1''-terphenyl]-4-yl-, (S)- (9Cl) (CA INDEX NAME)

Absolute stereochemistry.

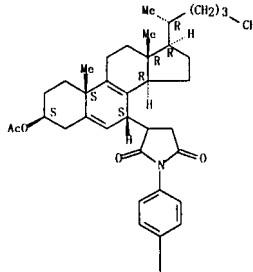
L5 ANSWER 130 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 141171-28-0 CAPLUS  
 CN 2,5-Pyrrolidinedione, 3-[(3 $\alpha$ ,7 $\alpha$ )-3-(acetoxycholesta-5,8-dien-7-yl)-1-[1,1':4',1"-terphenyl]-4-yl]- (9CI) (CA INDEX NAME)

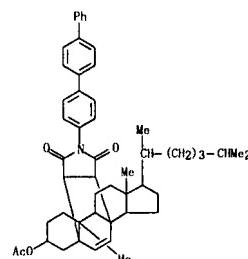
Absolute stereochemistry.

PAGE 1-A



L5 ANSWER 130 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

RN 141171-30-4 CAPLUS  
 CN 1H,4H-3b,12b-Ethanobenz[e]indeno[5,4-g]isoindole-1,3(2H)-dione, 5-(acetyl oxy)-10-(1,5-dimethylhexyl)-3a,5,6,7,7a,8,9,9a,10,11,12,12a,12c-tetradecahydro-7a,9a-dimethyl-2-[1,1':4',1"-terphenyl]-4-yl-, [3aR-[3a $\alpha$ ,3b $\beta$ ,5 $\beta$ ,7a $\beta$ ,7b $\alpha$ ,9a $\beta$ ,10B(R\*)]-12a $\alpha$ ,12b $\beta$ ,12c $\alpha$ ]-(9CI) (CA INDEX NAME)



PAGE 2-A

L5 ANSWER 131 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 116-245397 CAPLUS  
 DN 116-245397

TI Liquid-crystal aligning-film composition  
 IN Kanbe, Sadao; Aoki, Nobuo; Ebisawa, Makoto  
 PA Seiko Epson Corp., Japan; Japan Carlit Co., Ltd.  
 SO Jpn. Kokai Tokkyo Koho, 13 pp.  
 CODEN: JKXAF

DT Patent

LA Japanese

FAN, CNT 1

| PATENT NO.           | KIND | DATE     | APPLICATION NO. | DATE         |
|----------------------|------|----------|-----------------|--------------|
| P1 JP 03179323       | A    | 19910805 | JP 1989-329057  | 19891219 <-- |
| PRA1 JP 1989-3290235 | A1   | 19881219 |                 |              |
| JP 1989-3243         | A1   | 19890110 |                 |              |
| JP 1989-25079        | A1   | 19890203 |                 |              |
| JP 1989-25080        | A1   | 19890203 |                 |              |
| JP 1989-150085       | A1   | 19890613 |                 |              |
| JP 1989-206550       | A1   | 19890809 |                 |              |
| JP 1989-208883       | A1   | 19890811 |                 |              |
| JP 1989-247564       | A1   | 19890922 |                 |              |

AB The title component contains a polyamic acid [NHCOR(CO<sub>2</sub>H)<sub>2</sub>CONHR<sub>2</sub>]<sub>n</sub> (R<sub>1</sub> = aromatic or aliphatic ring; R<sub>2</sub> = aromatic ring with side chain having alkyl, alkoxy, or halo, and/or cyclic substituent; n = integer). The film gives a high pretilt angle and is suited for use in supertwisted nematic liquid-crystal displays.

IT 136951-68-3

RL: USES (Uses)  
 (polyamic-acid aligning-film composition from, for liquid crystal display  
 device)

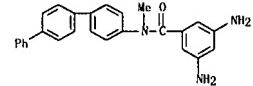
RN 136951-68-3 CAPLUS

CN Benzamide, 3,5-diamino-N-methyl-N-[1,1':4',1"-terphenyl]-4-yl-, polymer with 1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone (9CI) (CA INDEX NAME)

CM 1

CRN 136951-67-2

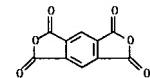
CMF C26 H23 N3 O



CM 2

CRN 89-32-7

CMF C10 H2 O6



L5 ANSWER 132 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1992:195125 CAPLUS  
 DN 116-195125

TI Polyphenylenediamines and their use as polycondensation monomers in the synthesis of polyimides/polyamides poly(amide-imide), and polyisocyanide polymers

IN Harris, Frank W.  
 PA University of Akron, USA  
 SO U.S., 12 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 FAN CNT 1

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE        |
|---------------|------|----------|-----------------|-------------|
| PI US 5087691 | A    | 19920211 | US 1989-402272  | 19890901 <- |

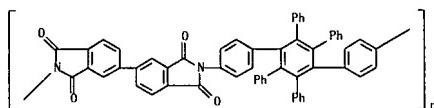
PRAI 1989-402272  
 AB The title diamines, e.g. 1,4-bis(4-aminophenyl)-2,3,5-triphenylbenzene (I), are prepared and polymerized to give polyamides, polyimide-polyamides and polyimides with good strength, solubility, dielectric properties, and low coefficient of expansion. Thus, a polymer, prepared by polymerizing 0.4 g/l with 0.1662 g terephthaloyl chloride in N-methylpyrrolidone (I), had inherent viscosity (in  $\text{I}$  at  $30^\circ\text{C}$ ) 2.67 dL/g, 5% weight loss temperature 493 and  $508^\circ\text{C}$ , in air and in  $\text{N}_2$  resp.

IT 121265-82-5P 121265-83-6P 121265-84-7P

RL: PREP (Preparation)  
 (preparation of, heat-resistant, with good solubility and processability)

RN 121265-82-5 CAPLUS

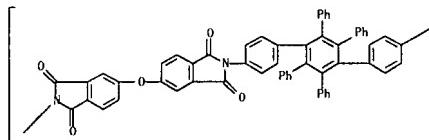
CN Poly[(1,1',3,3'-tetrahydro-1',3,3'-tetraoxo[5,5'-bi-2H-isindole]-2,2'-diyl)(2',3',5',6'-tetraphenyl)[1,1':4',1''-terphenyl]-4,4''-diyl]-1,4-phenylene] (9Cl) (CA INDEX NAME)



RN 121265-83-6 CAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)(2',3',5',6'-tetraphenyl)[1,1':4',1''-terphenyl]-4,4''-diyl] (9Cl) (CA INDEX NAME)

L5 ANSWER 132 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A

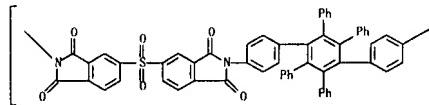


PAGE 1-B

$n$

RN 121265-84-7 CAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)sulfonyl(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)(2',3',5',6'-tetraphenyl)[1,1':4',1''-terphenyl]-4,4''-diyl] (9Cl) (CA INDEX NAME)

PAGE 1-A



L5 ANSWER 132 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-B

$n$

L5 ANSWER 132 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1992:184530 CAPLUS

DN 116-184530

TI Electrophotographic photoconductors  
 IN Ueda, Minoru; Niimi, Tatsuya; Hashimoto, Mitsuhiro; Sasaki, Masanori; Ariga, Taeatsu; Shimada, Tomoyuki

PA Ricoh Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

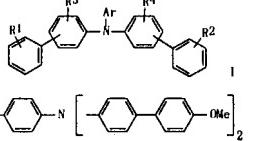
DT Patent

LA Japanese

FAN CNT 1

| PATENT NO.         | KIND | DATE     | APPLICATION NO. | DATE        |
|--------------------|------|----------|-----------------|-------------|
| PI JP 03249759     | A    | 19911107 | JP 1990-48945   | 19900228 <- |
| PRAI JP 2898685    | B2   | 19990602 |                 |             |
| PRAI JP 1990-48945 |      | 19900228 |                 |             |

GI



AB Pyrylium dyes, insulating polymers, and compds. I are contained in the title photoconductor ( $R_1$ -2 = H, amino, dialkylamino, alkoxy, thialkoxy, aryloxy, alkyl, halo, aryl;  $R_3$ -4 = H, alkoxy, alkyl, halo; Ar = monocyclic aromatic hydrocarbyl, noncondensed polycyclic aromatic hydrocarbyl, heterocyclic). The photoconductors have high sensitivity, especially when charged pos., and low residual voltage. Thus, an Al-coated PET film was coated with a layer containing 4-(4-dimethylaminophenyl)-2,6-diphenylthiopyrylium perchlorate, polycarbonate, and compound II showed the advantage.

IT 138796-77-7

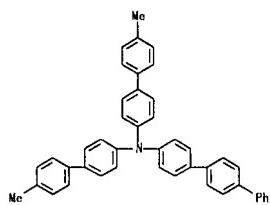
RL: USES (Uses)

(electrophotog. photoconductors containing pyrylium dye and, as sensitizers)

RN 138796-77-7 CAPLUS

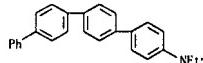
CN [1,1':4',1''-Terphenyl]-4-amine, N,N-bis(4'-methyl[1,1'-biphenyl]-4-yl)-(9Cl) (CA INDEX NAME)

L5 ANSWER 133 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L5 ANSWER 134 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1992-116756 CAPLUS  
 DN 116-95688  
 TI Oligophenylene thin film electroluminescence device  
 IN Magai, Takenao; Namiki, Toru; Nakada, Hitoshi; Wakimoto, Takeo; Murayama, Tatsufumi  
 PA Pioneer Electronic Corp., Japan  
 SO Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN. CNT 1

| PATENT NO.          | KIND  | DATE     | APPLICATION NO. | DATE        |
|---------------------|---|----------|-----------------|-------------|
| P1 JP 03162484      | A   | 19910712 | JP 1989-301501  | 19891120 <- |
| PRA1 JP 1989-301501 |   | 19891120 |                 |             |
| AB                  | The title device, capable of high-efficiency operation at a low voltage, comprises an oligophenylene derivative-containing thin-film luminescence layer, and a hole transport layer, sandwiched between a cathode and an anode. |          |                 |             |
| IT                  | 139269-37-7<br>RL: USES (Uses)<br>(thin-film electroluminescent device)   |          |                 |             |
| RN                  | 139269-37-7 CAPLUS  |          |                 |             |
| CN                  | [1,1':4',1'':4'',1''':-Quaterphenyl]-4-amine, N,N-diethyl- (9CI) (CA INDEX NAME)  |          |                 |             |

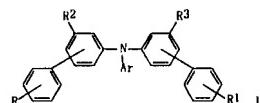


L5 ANSWER 135 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

DN 116-95688

TI Method for recovering electrophotographic photoreceptor fatigue  
IN Niimi, Tatsuya; Umeda, Minoru; Sasaki, Masamori; Ariga, Tamotsu; Shimada, TomoyukiPA Ricoh Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 42 pp.  
CODEN: JKXXAFDT Patent  
LA Japanese  
FAN. CNT 1

| PATENT NO.          | KIND | DATE     | APPLICATION NO. | DATE        |
|---------------------|------|----------|-----------------|-------------|
| P1 JP 03118548      | A    | 19910521 | JP 1989-255567  | 19890930 <- |
| PRA1 JP 289121      | B2   | 19990412 |                 |             |
| PRM1 JP 1989-255567 |      | 19890930 |                 |             |
| OS MARPAT 116-95688 |      |          |                 |             |
| GI                  |      |          |                 |             |

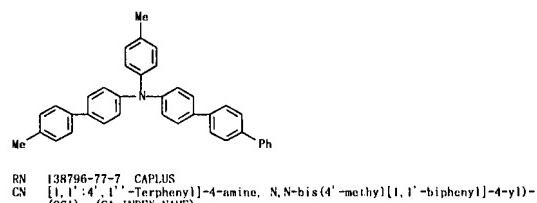


AB The title method comprises heat-treating the photoreceptor containing a charge-transport compound I ( $R, R_1 = H, \text{amino, dialkylamino, alkoxy, thionikoxy, aryloxy, alkyl, halo, aryl}$ ;  $R_2, R_3 = H, \text{alkoxy, alkyl, halo}$ ;  $\text{Ar} = \text{single aromatic hydrocarbon, noncondensation-type multi-ring aromatic hydrocarbon, heterocyclic}}$ ) inside or outside of an image-forming apparatus 138796-39-1 138796-77-7

IT RL: USES (Uses)  
(electrophotographic photoreceptor containing, method for recovering fatigue of)

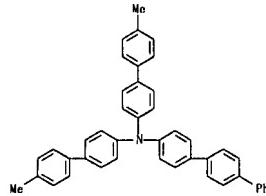
RN 138796-39-1 CAPLUS

CN [1,1':4',1'':-Terphenyl]-4-amine, N-(4'-methyl[1,1'-biphenyl]-4-yl)-N-(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 138796-77-7 CAPLUS  
CN [1,1':4',1'':-Terphenyl]-4-amine, N,N-bis(4'-methyl[1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)

L5 ANSWER 135 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L5 ANSWER 136 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1991:633188 CAPLUS  
 DN 115-233188

TI Preparation of heat-resistant polyimides  
 IN Aoki, Nobuo; Ebisawa, Makoto  
 PA Japan Carlit Co., Ltd., Japan  
 SO Jpn, Kokai Tokkyo Koho, 12 pp.  
 CODEN: JKXXAF

DT Patent

LA Japanese

FAN CNT 1

| PATENT NO.      | KIND | DATE     | APPLICATION NO. | DATE         |
|-----------------|------|----------|-----------------|--------------|
| P1 JP 03121132  | A    | 19910523 | JP 1990-33713   | 19900216 <-- |
| PRA1 JP 0312914 | A1   | 19890307 |                 |              |
| JP 1989-126579  | A1   | 19890522 |                 |              |

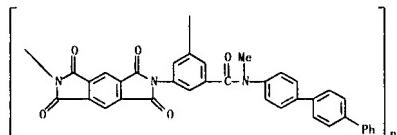
AB Polyimides having good film-forming properties and useful for liquid crystal orientation films are prepared by polycondensation of tetracarboxylic acids with aromatic diamines bearing cyclic substituent pendant groups. Thus, reacting 5,4-paris cyclohexyloxy-1,4-phenylenediamine with 4,4-parts 3,3',4,4'-biphenyltetracarboxylic acid dianhydride in 118 parts AcNMe<sub>2</sub> at 20-30° for 24 h, coating the resulting solution on glass and heating at 250° for 1 h gave a film having decomposition temperature 353°.

IT 136919-52-3P 136951-68-3P

RL: PREP (Preparation)  
 (preparation of heat-resistant, for liquid crystal orientation films)

RN 136919-52-3 CAPLUS

CN Poly[5,7-dihydro-1,3,5,7-tetraoxobenzo[1,2-c:4,5-c']diluran-1,3,5,7-tetrono (9Cl) (5-[5-(methyl)[1,1':4',1"-terphenyl]-4-ylamino)carbonyl]-1,3-phenylene] (9Cl) (CA INDEX NAME)



RN 136951-68-3 CAPLUS

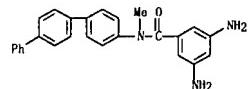
CN Benzamide, 3,5-dimino-N-methyl-N-[{1,1':4',1"-terphenyl]-4-y]-, polymer with [1H,3H-benzo[1,2-c:4,5-c']diluran-1,3,5,7-tetrono (9Cl) (CA INDEX NAME)

CM 1

CRN 136951-67-2

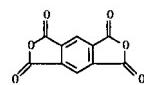
CMF C26 H23 N3 O

L5 ANSWER 136 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



CM 2

CRN 89-32-7  
 CMF C10 H2 O6



L5 ANSWER 137 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1991:546195 CAPLUS  
 DN 115-146495

TI The relationship between the physical properties of the alignment layer and the quality of SSPLC (surface stabilized ferroelectric liquid crystal) cells

AU Myrvold, Bernt O.

CS Autodisplay A/S, Oslo, N-0314, Norway

SO Molecular Crystals and Liquid Crystals (1991), 202, 123-47

CODEN: MCLCA5; ISSN: 0026-8941

DT Journal

LA English

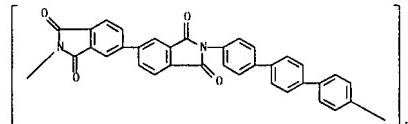
AB Data on the quality of alignment for 130 different polymers, tested as alignment layers for surface stabilized ferroelec. liquid crystal displays (SSFLCs), are given. The thermal, mech. and elec. properties of the polymers are correlated with their ability to give good, bistable alignment in SSPLCs.

IT 26402-03-9 CAPLUS

RL: PRP (Properties)  
 (properties of, for alignment layer of surface-stabilized ferroelec. liquid crystal cell)

RN 26402-03-9 CAPLUS

CN Poly[1,1':3,3"-tetrahydro-1,1',3,3"-tetraoxo[5,5'-bi-2H-isoindole]-2,2'-diyl][1,1':4',1"-terphenyl]-4,4"-diyl] (9Cl) (CA INDEX NAME)



L5 ANSWER 138 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1991:502495 CAPLUS  
 DN 115-102495

TI Organic material for nonlinear optics and electrooptical devices  
 IN Fauvarque, Jean Francois; Jutand, Anny; Amatore, Christian; Negri, Serge  
 PA Alcatel N. V., Nath.  
 SO Eur. Pat. Appl., 11 pp.

CODEN: EPXXDW

DT Patent

LA French

FAN CNT 1

| PATENT NO.         | KIND | DATE     | APPLICATION NO. | DATE         |
|--------------------|------|----------|-----------------|--------------|
| P1 EP 424829       | A1   | 19910502 | EP 1990-120132  | 19901019 <-- |
| DE, FR, GB, IT, NL |      |          |                 |              |
| FR 2653949         | A1   | 19910503 | FR 1989-14062   | 19891026 <-- |

PRA1 JP 03167533 A 19910719 JP 1990-285677 19901023 <--

OS MARPAT 115-102495

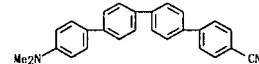
AB The title material has the formula D(p-C6H4)nCN where D is an electron donor group, CN is electron-attractive group, and n = 3 or 4. The material is prepared by reacting D-o-C6H4-n-Cl with Br(p-C6H4)n-ICN.

IT 130447-14-2P

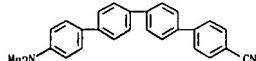
RL: TEA (Technical or engineered material use); FORM (Formation, nonpreparative); PREP (Preparation); USES (Uses)  
 (preparation and use of, as nonlinear optical material)

RN 130447-14-2 CAPLUS

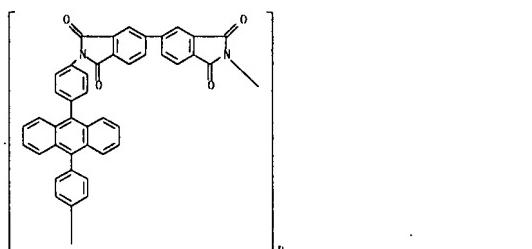
CN [1,1':4',1"-terphenyl]-4-carbonitrile, 4'''-(dimethylamino)- (9Cl) (CA INDEX NAME)



L5 ANSWER 139 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1991:153568 CAPLUS  
 DN 114:153568  
 TI Nonlinear optical properties of asymmetric polyphenyls: efficiency versus transparency trade-off  
 AU Ledoux, Isabelle; Zyss, Joseph; Jutand, Anny; Amatore, Christian  
 CS Lab. Bagneux, CNET, Bagneux, 92220, Fr.  
 SO Chemical Physics (1991), 150(1), 117-23  
 CODEN: CMPC2; ISSN: 0301-0104  
 DT Journal  
 LA English  
 AB First-order hyperpolarizabilities  $\beta$  of a sequence of dimethylaminocyanopolypheyl oligomers were measured by using the elec. field induced 2nd harmonic generation technique. High  $\beta$  values (up to  $55 \times 10^{-30}$  esu at zero frequency) are reported by in keeping with transparency in the visible and near UV spectral range. The behavior of  $\beta$  related to the number of Ph units was compared to calculated hyperpolarizabilities and discussed in terms of trade-off between intramol. charge transfer and the noncoplanarity between the benzene rings.  
 IT 130447-14-2  
 RL: PRP (Properties)  
 (nonlinear optical properties of)  
 RN 130447-14-2, CAPLUS  
 CN Poly[1,1':4',1"-Quaterphenyl]-4-carbonitrile, 4'-(dimethylamino)-(9Cl) (CA INDEX NAME)



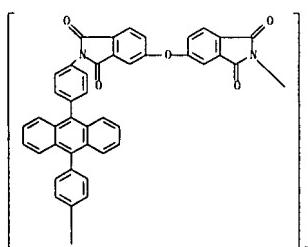
L5 ANSWER 140 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1991:144439 CAPLUS  
 DN 114:144439  
 TI Exciplex luminescence of anthracene-containing polyimides and its quenching in electric field  
 AU Kapustin, G. V.; Kotov, B. V.  
 CS Nauchno-Issled. Fiz.-Khim. Inst., Moscow, USSR  
 SO Doklady Akademii Nauk SSSR (1990), 315(4), 904-7 [Phys. Chem.]  
 CODEN: DANKAS; ISSN: 0002-3264  
 DT Journal  
 LA Russian  
 AB Quenching of photoluminescence by elec. field was observed for aromatic, 9,10-bis(p-aminophenyl)anthracene-based polyimide films. The effect increased with increasing electron affinity of the diimide fragment in these films. The results were interpreted in terms of the mechanism of field quenching of exciplex fluorescence (Yokoyama, M.; et al., 1982). The findings confirm directly the exciplex nature of the excited luminescent states in polyimides and their role in photogeneration of charge carriers.  
 IT 106725-35-3, 106725-36-4 133030-08-7  
 RL: PRP (Properties)  
 (exciplex luminescence and elec. field-induced luminescence quenching of)  
 RN 106725-35-3, CAPLUS  
 CN Poly[1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isoindole]-2,2'-diyl-1,4-phenylene-9,10-anthracenediyl-1,4-phenylene] (9Cl) (CA INDEX NAME)



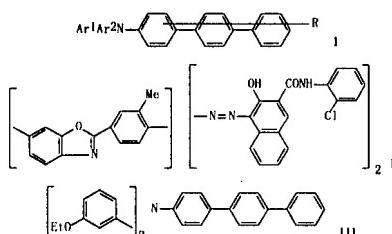
RN 106725-36-4, CAPLUS  
 CN Poly[1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl]carbonyl(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,4-phenylene-9,10-anthracenediyl-1,4-phenylene] (9Cl) (CA INDEX NAME)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

L5 ANSWER 140 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 \* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*  
 RN 133030-08-7, CAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,4-phenylene-9,10-anthracenediyl-1,4-phenylene] (9Cl) (CA INDEX NAME)



L5 ANSWER 141 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1991:14920 CAPLUS  
 DN 114:14920  
 TI Electrographographic photoconductors  
 IN Kanmura, Tetsuo; Kikuchi, Norihiro; Senoo, Akihiro; Yashiro, Ryoji  
 PA Canon K. K., Japan  
 SO Jpn. Kokai Tokkyo Koho, 13 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 PAP. CNT 1  
 PATENT NO. KIND DATE APPLICATION NO. DATE  
 PI JP 02190862 A 19900726 JP 1989-11382 19890120 --  
 PRAI JP 1989-11382 GI



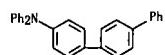
AB Photosensitive layer of the photoconductors contain p-terphenyl compds. I [ $\text{Ar}1\text{-}2 = (\text{substituted Ph})$ ;  $\text{Ar}2 = \text{halo, alkyl, alkoxy}$ ]. The use of I as charge carrier-transporting agent provided high sensitivity and stable performance. Thus, the Al sheet was used as an electron-conducting layer containing bisazo dye II and butyl resin, and a charge-transporting layer containing III and polycarbonate to obtain a photoconductor. This photoconductor was chargeable to  $-700$  V, which decayed to  $695$  V after 1 s, when the sensitivity (exposure required for half decay of the voltage) 1.5 lx-s. Initial dark voltage and light voltage were  $-700$  and  $-200$  V, resp., which were  $-690$  and  $-214$  V, resp., after 5000 copies using the photoconductor.

IT 130965-28-9, 130965-29-6 130965-30-9  
 130965-31-0 130965-32-1 130965-33-2  
 130965-34-3 130965-35-4 130965-36-5  
 130965-37-6 130965-38-7 130965-40-1  
 RL: DMS (1usea)  
 (as charge-transporting agent, electrophotog. photoconductors containing)

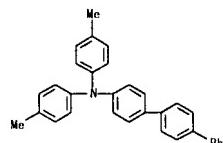
RN 130965-28-9, CAPLUS

CN [1,1':4',1"-Terphenyl]-4-amine, N,N-diphenyl- (9Cl) (CA INDEX NAME)

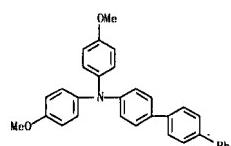
## L5 ANSWER 141 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



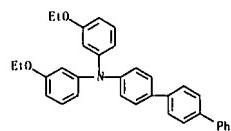
RN 130965-29-6 CAPLUS  
CN [1,1':4',1''-Terphenyl]-4-amine, N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



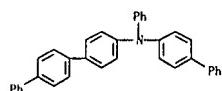
RN 130965-30-9 CAPLUS  
CN [1,1':4',1''-Terphenyl]-4-amine, N,N-bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



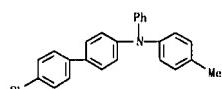
RN 130965-31-0 CAPLUS  
CN [1,1':4',1''-Terphenyl]-4-amine, N,N-bis(3-ethoxyphenyl)- (9CI) (CA INDEX NAME)



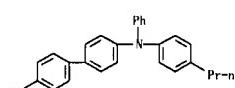
RN 130965-32-1 CAPLUS

L5 ANSWER 141 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
[1,1':4',1''-Terphenyl]-4-amine, N-[1,1'-biphenyl]-4-yl-N-phenyl- (9CI)  
(CA INDEX NAME)

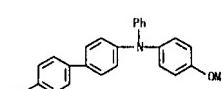
RN 130965-33-2 CAPLUS  
CN [1,1':4',1''-Terphenyl]-4-amine, N-(4-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



RN 130965-34-3 CAPLUS  
CN [1,1':4',1''-Terphenyl]-4-amine, N-phenyl-N-(4-propylphenyl)- (9CI) (CA INDEX NAME)

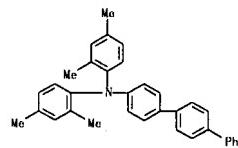


RN 130965-35-4 CAPLUS  
CN [1,1':4',1''-Terphenyl]-4-amine, N-(4-methoxyphenyl)-N-phenyl- (9CI) (CA INDEX NAME)

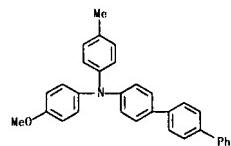


RN 130965-36-5 CAPLUS  
CN [1,1':4',1''-Terphenyl]-4-amine, N,N-bis(2,4-dimethylphenyl)- (9CI) (CA INDEX NAME)

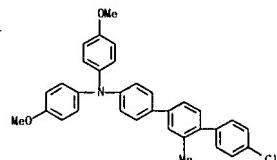
## L5 ANSWER 141 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 130965-37-6 CAPLUS  
CN [1,1':4',1''-Terphenyl]-4-amine, N-(4-methoxyphenyl)-N-(4-methylphenyl)- (9CI) (CA INDEX NAME)

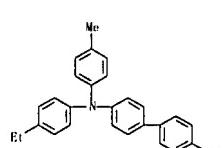


RN 130965-38-7 CAPLUS  
CN [1,1':4',1''-Terphenyl]-4-amine, 4''-chloro-N,N-bis(4-methoxyphenyl)-3'-methyl- (9CI) (CA INDEX NAME)

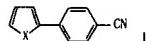


RN 130965-40-1 CAPLUS  
CN [1,1':4',1''-Terphenyl]-4-amine, N-(4-ethylphenyl)-N-(4-methylphenyl)- (9CI) (CA INDEX NAME)

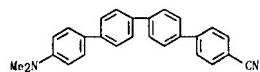
## L5 ANSWER 141 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L5 ANSWER 142 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1990:611743 CAPLUS  
 DN 113:211743  
 TI Efficient palladium-catalyzed synthesis of unsymmetrical donor-acceptor biphenyls and polyaryls  
 AU Amatore, Christian; Jutand, Anny; Negri, Serge; Fauvergue, Jean Francois  
 CS Lab. Chim., Ec. Norm. Supér., Paris, 75231, Fr.  
 SO Journal of Organometallic Chemistry (1990), 390(3), 389-98  
 CODEN: JORCAI; ISSN: 0022-328X  
 DT Journal  
 LA English  
 OS CASREACT 113:211743  
 GI

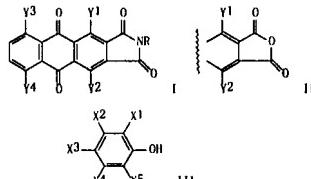


AB 4,4'-Unsym. substituted biphenyls were synthesized by cross-coupling reactions of substituted aromatic organometallic reagents and aromatic halides catalyzed by palladium complexes. This two-step method from com. available aromatic halides was used for the synthesis of a series of donor/acceptor para-substituted biphenyls, R<sub>2</sub>C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>R<sub>1</sub> (R = electron donor group, R<sub>1</sub> = electron acceptor group), which are of interest as liquid crystal precursors and as having potential in nonlinear optics. Thus, 4-Me<sub>2</sub>NCH<sub>2</sub>ZnCl reacted with 4-BrC<sub>6</sub>H<sub>4</sub>CN to give 78% 4-Me<sub>2</sub>NCH<sub>2</sub>4C<sub>6</sub>H<sub>4</sub>CN-4'. Biphenyls (e.g., I, X = O, S) in which the donor-Ph moiety is replaced by 2-furyl or 2-thienyl were synthesized similarly. The method was also used for the convergent synthesis of previously unreported unsym. substituted polyphenylphenylenes 4-R(C<sub>6</sub>H<sub>4</sub>)<sub>n</sub>CN (R = Br, Me<sub>2</sub>N, Me; n = 3, 4).  
 IT 130447-14-2, 4-(Dimethylamino)-4'-cyano-p-tetraphenyl  
 RL: SPN (Synthesis preparation); PREP (Preparation)  
 (preparation of)  
 RN 130447-14-2, CAPLUS  
 CN {1,1':4",1":4",1"}-Quaterphenyl]-4-carbonitrile, 4"--(dimethylamino)-  
 (9CI) (CA INDEX NAME)



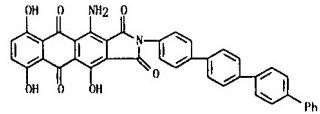
L5 ANSWER 143 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1990:593451 CAPLUS  
 DN 113:193451  
 TI Preparation of anthraquinonedicarboxylic imide dyes  
 IN Ito, Nuoto; Misawa, Tsugumi  
 PA Mitsui Toatsu Chemicals, Inc., Japan  
 SO Jpn. Kokai Tokkyo Koho, 4 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese  
 FAN CNT 1  
 PATENT NO. KIND DATE APPLICATION NO. DATE  
 PT JP 02018456 A 19900122 JP 1988-166866 19880706 <-  
 JP 05013992 B 19930223  
 PRA1 JP 1988-166866 19880706  
 OS MARPAT 113:193451  
 GI



AB Anthraquinone dyes I [R = (un)substituted alkyl, cycloalkyl, aryl, heterocyclic residue; Y1-Y4 = H, (alkyl)amino, OH, alkoxy, halogen] are prepared by treating anthraquinonedicarboxylic anhydrides II with amines RNH<sub>2</sub> in phenols III (X<sub>1</sub>-X<sub>5</sub> = H, alkyl, halogen) in the presence or absence of (iso)quinoline, pyridine, mono-, di-, or trialkylpyridines under heating. Thus, II (Y<sub>1</sub> = Y<sub>2</sub> = NH<sub>2</sub>, Y<sub>3</sub> = Y<sub>4</sub> = H) was stirred with 2-amminonaphthalene in m-cresol in the presence of isoquinoline at 150° for 9 h to give I (R =  $\beta$ -naphthyl, Y<sub>1</sub> = Y<sub>2</sub> = NH<sub>2</sub>, Y<sub>3</sub> = Y<sub>4</sub> = H) in 95% purity.  
 IT 128012-17-9P  
 RL: IMP (Industrial manufacture); PREP (Preparation)  
 (preparation of, as dyes)  
 RN 128012-17-9, CAPLUS  
 CN 1-[H-Naphth[2,3-*f*]isoindole-1,3,5,10(2*H*)-tetrone, 4-amino-6,9,11-trihydroxy-2-[1,1':4",1":4",1"]-quaterphenyl]-4-yl- (9CI) (CA INDEX NAME)

I.5 ANSWER 143 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

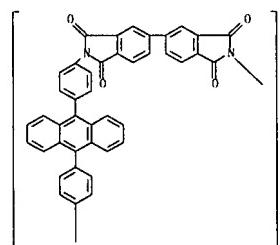


L5 ANSWER 144 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1990:442164 CAPLUS  
 DN 113:42164  
 TI Nonsymmetric polyimide membranes for gas separation and their manufacture  
 IN Nakatani, Masayuki; Kusuki, Yoshihiro  
 PA Ube Industries, Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese  
 FAN CNT 1  
 PATENT NO. KIND DATE APPLICATION NO. DATE  
 PT JP 02014723 A 19900118 JP 1988-162425 19880701 <-  
 JP 06936856 B 19940518

PRA1 JP 1988-162425 19880701  
 AB Title: membranes useful for separation or concentration of CO<sub>2</sub> (g) are prepared by dissolving polyimides containing 90% biphenyltetracarboxylic acid-9,10-bis(4-aminophenyl)anthracene (I) copolymer in halogenated phenol, forming membranes, and coagulating in a 40:60:40 alc.-water mixture. Hollow fibers prepared from a p-chlorophenol solution of 2,3,3',4'-biphenyltetracarboxylic dianhydride (II)-I copolymer and coagulated in a 50:50 EtOH-water mixture then a 60:40 mixture had CO<sub>2</sub> permeability 8.6 + 10<sup>-5</sup> cm<sup>3</sup>/m<sup>2</sup>s-cmHg and CO<sub>2</sub>/CH<sub>4</sub> selectivity 54, vs. 0.2 + 10<sup>-5</sup> and 48, resp., for a hollow fibers of 11-4,4'-diaminodiphenyl ether copolymer.

IT 106725-35-3  
 RL: USES (Uses)  
 (hollow-fiber membranes, for carbon dioxide separation and concentration)  
 RN 106725-35-3, CAPLUS  
 CN Poly[(1,1':3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isoindole]-2,2'-diyl)-1,4-phenylene-9,10-anthracenediyl-1,4-phenylene] (9CI) (CA INDEX NAME)



L5 ANSWER 145 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1990-425556 CAPLUS  
 DN 113-25555

TI Preparation of quinophthalone imide dyes  
 IN Ito, Naoto; Misawa, Tsugumi  
 PA Mitsui Toatsu Chemicals, Inc., Japan  
 SO Jpn. Kokai Tokkyo Koho, 4 pp.  
 CODEN: JKXXAF

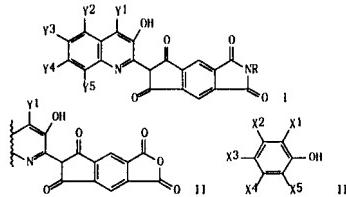
DT Patent

LA Japanese

FAN, CNT 1

| PATENT NO.          | KIND | DATE     | APPLICATION NO. | DATE         |
|---------------------|------|----------|-----------------|--------------|
| PI JP 02018460      | A    | 19900122 | JP 1988-167394  | 19880705 <-- |
| JP 06019035         | B    | 19940316 |                 |              |
| PRAI JP 1988-167394 |      | 19880705 |                 |              |

OS MARPAT 113:25556  
 G1



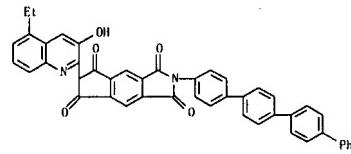
AB Quinophthalone dyes I [R = (un)substituted alkyl, cycloalkyl, aryl, heterocyclic residues; Y1-Y5 = H, alkyl, (alkyl)amino, OH, alkoxy, halogen] are prepared by reacting quinophthalonemicarboxylic anhydrides II with RNH2 in phenols III (X1-X5 = H, alkyl, halogen) in the presence or absence of (iso)quinoline, pyridine, mono-, di-, or trialkylpyridines under heating. Thus, II (Y1-Y5 = H) was stirred with 2-aminonaphthalene in m-cresol in the presence of isoquinoline at 150° for 4 h to give I (R = *p*-naphthyl, Y1-Y5 = H) in 95% purity.

IT 128029-38-9P  
 RL: IMF (Industrial manufacture): PREP (Preparation)  
 (preparation of, as dyes)

RN 128029-38-9 CAPLUS

CN Cyclopent[fi]isoindole-1,3,5,7(2H,6H)-tetrone, 6-(5-ethyl-3-hydroxy-2-quinolinyl)-2-[1,1':4",1":4",1"]-quaterphenyl]-4-yl- (9CI) (CA INDEX NAME)

L5 ANSWER 145 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L5 ANSWER 146 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1990-425555 CAPLUS  
 DN 113-25555

TI Preparation of perylene dyes  
 IN Ito, Naoto; Misawa, Tsugumi  
 PA Mitsui Toatsu Chemicals, Inc., Japan  
 SO Jpn. Kokai Tokkyo Koho, 4 pp.  
 CODEN: JKXXAF

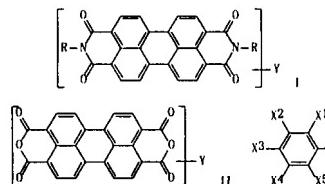
DT Patent

LA Japanese

FAN, CNT 1

| PATENT NO.          | KIND | DATE     | APPLICATION NO. | DATE         |
|---------------------|------|----------|-----------------|--------------|
| PI JP 02016165      | A    | 19900119 | JP 1988-164998  | 19880704 <-- |
| JP 05013991         | B    | 19930223 |                 |              |
| PRAI JP 1988-164998 |      | 19880704 |                 |              |

OS MARPAT 113:25555  
 G1



AB Perylene dyes I [R = (un)substituted alkyl, cyclic alkyl, aryl, heterocyclic residue; Y = H, alkyl, (alkyl)amino, OH, alkoxy, halogen] are prepared by treating perylenetetracarboxylic anhydrides II with RNH2 in phenols III (X1-X5 = alkyl, halogen, H) in the presence or absence of (iso)quinoline, pyridine, mono-, di-, or trialkylpyridine under heating. Thus, II (Y = H), 2-aminonaphthalene, isoquinoline, and m-cresol were heated at 150° for 4 h with stirring to give I (R = *p*-naphthyl, Y = H) of 95% purity.

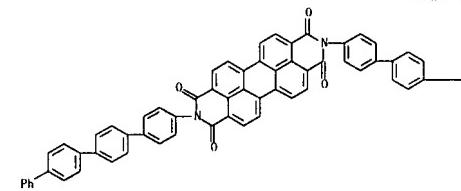
IT 127784-38-7P  
 RL: IMF (Industrial manufacture): PREP (Preparation)  
 (preparation of, as dye)

RN 127784-38-7 CAPLUS

CN Anthra[2,1,9-def:6,5,10-d'e'f']diisoquinoline-1,3,8,10(2H,9H)-tetrone, 2,9-bis([1,1':4",1":4",1"]-quaterphenyl)-4-yl- (9CI) (CA INDEX NAME)

L5 ANSWER 146 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A

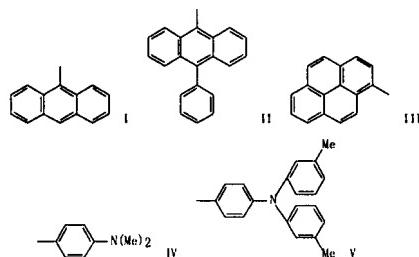


PAGE 1-B



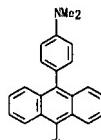
L5 ANSWER 147 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1990-414510 CAPLUS  
 DN 113-14510  
 TI Electrolytic chemiluminescence laser and apparatus for generation thereof  
 IN Kojima, Hiroyuki  
 PA Agency of Industrial Sciences and Technology, Japan  
 SO Jpn. Kokai Tokkyo Koho, 5 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese  
 FAN. CNT 1  
 PATENT NO. KIND DATE APPLICATION NO. DATE  
 PI JP 01278789 A 19891109 JP 1988-108838 19880430 --  
 JP 06066528 B 19940824  
 PRAI JP 1988-108838 19880430  
 OS MARPAT 113:14510  
 GI

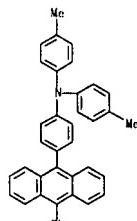


AB A method for generating a tunable pulse laser electrochem. in the visible range and an electrolytic cell apparatus therefor are claimed, wherein the method comprises flowing a solution of a compound AD (A = I, II, III; B = IV, V) in an aprotic organic solvent through a thin-layer cell, consisting of a pair of parallel flat electrodes, under an a.c. voltage, and wherein the apparatus comprises a totally reflecting mirror at 1 end of the cell and a partially reflecting mirror at the other end, disposed perpendicularly to the plane of the cell.  
 IT 71901-29-6 19429-02-9  
 RL: PNP (Properties)  
 (electrolytic chemiluminescence laser containing, tunable pulse)  
 RN 71901-29-6 CAPLUS  
 CN Benzenamine, N,N-dimethyl)-4-(10-phenyl-9-anthracenyl)- (9CI) (CA INDEX NAME)

L5 ANSWER 147 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

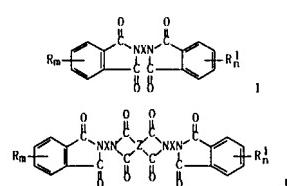


RN 74296-02-9 CAPLUS  
 CN Benzenamine, N,N-bis(4-methylphenyl)-4-(10-phenyl-9-anthracenyl)- (9CI) (CA INDEX NAME)



L5 ANSWER 148 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1990-150731 CAPLUS  
 DN 112-159731  
 TI UV-absorbing diimides for molded thermoplastic polyesters  
 IN Hirahara, Takaji; Nakamura, Takeshi; Kusunaga, Yoshiko; Ohta, Takayuki;  
 Kasai, Teisuo  
 PA Mitsubishi Kasei Corp., Japan  
 SO Eur. Pat. Appl., 23 pp.  
 CODEN: EPXXDW

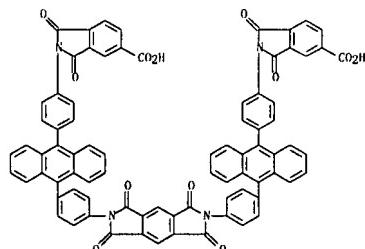
DT Patent  
 LA English  
 FAN. CNT 1  
 PATENT NO. KIND DATE APPLICATION NO. DATE  
 PI EP 335595 A2 19891004 EP 1989-302910 19890323 --  
 EP 335595 A3 19910206  
 EP 335595 B1 19940608  
 R: DE, FR, GB  
 JP 01247451 A 19891003 JP 1988-73421 19880329 --  
 JP 0806014 B 19960124  
 JP 01247452 A 19891003 JP 1988-73424 19880329 --  
 JP 0806188 B 19960221  
 US 4965302 A 19901023 US 1989-328095 19890323 --  
 KR 129545 B1 19980407 KR 1989-4039 19890329 --  
 PRAI JP 1988-73421 A 19880329  
 JP 1988-73424 A 19880329  
 GI



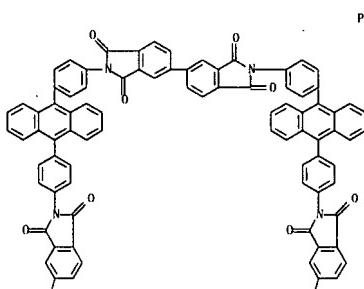
AB Title diimides comprise isophthalimide derivs. I and II (m, n = 0-4; R, R<sub>1</sub> = halogen, COOH or its ester, OH, AcO, NH2, CN, NO2, SO3H or its metal salts, alkyl, aliphatic and aromatic groups; X = aromatic-containing groups, Z = aromatic tetracarboxylic acid residue). Heating bis(A-hydroxyethyl) terephthalate 4000, GeO2 0.48 orthophosphoric acid 0.4, and 9,10-bis(4-aminophenyl)anthracene diimide with trimellitic anhydride 15 parts formed a polyester which was extrusion molded into 350-μm film. The film showed light transmittance of 0.2, 0, and 0% at 370, 380, and 400 nm, resp., vs. 68, 69, and -, resp., in the absence of the diimide.

IT 126221-64-5 126221-71-4 126221-72-5  
 126250-79-8  
 RL: U.S. Pat. 5,106,733  
 (UV-absorbers, for polyester moldings, preparation of)  
 RN 126221-64-5 CAPLUS  
 CN 1H-Isindole-5-carboxylic acid, 2,2'-(5,7-dihydro-1,3,5,7-tetraoxo[5,5'-bi-2H-isindole]-2,2'-diyl)bis(4,1-phenylene)-10,9-anthracenediyl-4,1-phenylene]bis[2,3-dihydro-1,3-dioxo- (9CI) (CA INDEX NAME)

L5 ANSWER 148 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



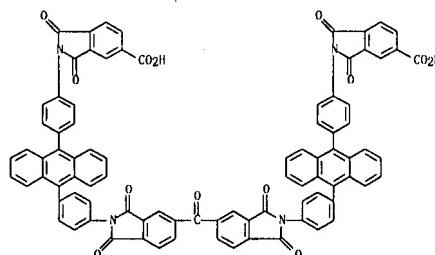
RN 126221-71-4 CAPLUS  
 CN 1H-Isindole-5-carboxylic acid, 2,2'-(5,7-dihydro-1,3,5,7-tetraoxo[5,5'-bi-2H-isindole]-2,2'-diyl)bis(4,1-phenylene)-10,9-anthracenediyl-4,1-phenylene]bis[2,3-dihydro-1,3-dioxo- (9CI) (CA INDEX NAME)



PAGE 1-A

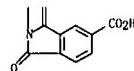
PAGE 2-A  
 HO2C  
 HO2C  
 RN 126221-72-5 CAPLUS

L5 ANSWER 148 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 CN 1H-Indole-5-carboxylic acid, 2,2'-(carbonyl)bis[1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diy]-4,1-phenylene-10,9-anthracenediyl]-4,1-phenylene)bis[2,3-dihydro-1,3-dioxo- (9CI) (CA INDEX NAME)

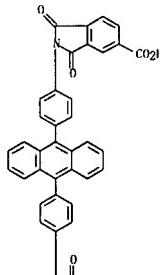


RN 126259-79-8 CAPLUS  
 CN 1H-Indole-5-carboxylic acid, 2,2'-(9,10-anthracenediyl)-4,1-phenylene)bis[2,3-dihydro-1,3-dioxo- (9CI) (CA INDEX NAME)

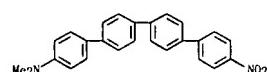
L5 ANSWER 148 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 PAGE 2-A



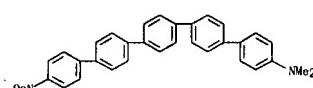
PAGE 1-A



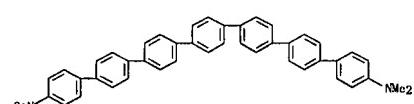
L5 ANSWER 149 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1990:27665 CAPLUS  
 DN 112:27665  
 TI Design of novel conjugated molecules with large hyperpolarizabilities  
 AU Morley, J. O.  
 CS Fine Chem. Res. Cent., ICI Colours and Fine Chem., Manchester, M9 3DA, UK  
 SO Springer Proceedings in Physics (1989), Volume Date 1988,  
 36(Nonlinear Opt. Org. Semicond.), 86-97  
 CODEN: SPPPEL ISSN: 0930-8989  
 DT Journal  
 LA English  
 AB The hyperpolarizability was calculated for a number of organic mol's. by using a CND0/S method coupled with a sum-over-had procedure. The method uses an initial CI treatment of the ground and excited state wave functions and then evaluation of the hyperpolarizability tensor from the improved wave functions.  
 IT 107716-13-2 107716-14-3 107716-15-4  
 107716-16-5 108030-45-1 114261-05-1  
 RL: PRP (Properties)  
 (hyperpolarizability calcns. for)  
 RN 107716-13-2 CAPLUS  
 CN {1,1':4',1":4',1":4"-Quaterphenyl}-4-amine, N,N-dimethyl-4"-nitro- (9CI) (CA INDEX NAME)



RN 107716-14-3 CAPLUS  
 CN {1,1':4',1":4',1":4"-Quinquephenyl}-4-amine, N,N-dimethyl-4"-nitro- (9CI) (CA INDEX NAME)



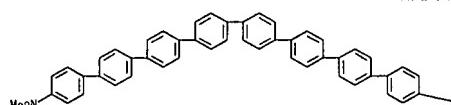
RN 107716-15-4 CAPLUS  
 CN {1,1':4',1":4',1":4",1":4"-Septiphonyl}-4-amine, N,N-dimethyl-4"-nitro- (9CI) (CA INDEX NAME)



RN 107716-16-5 CAPLUS  
 CN {1,1':4',1":4',1":4",1":4",1":4",1":4"-Octiphonyl}-4-amine, N,N-dimethyl-4"-nitro- (9CI) (CA INDEX NAME)

L5 ANSWER 149 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

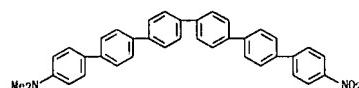
PAGE 1-A



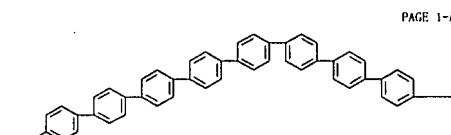
PAGE 1-B

~NO<sub>2</sub>

RN 108030-45-1 CAPLUS  
 CN {1,1':4',1":4",1":4",1":4",1":4",1":4"-Sexiphenyl}-4-amine, N,N-dimethyl-4"-nitro- (9CI) (CA INDEX NAME)

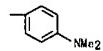


RN 114261-05-1 CAPLUS  
 CN {1,1':4',1":4",1":4",1":4",1":4",1":4",1":4"-Noviphenyl}-4-amine, N,N-dimethyl-4"-nitro- (9CI) (CA INDEX NAME)

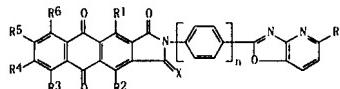


PAGE 1-A

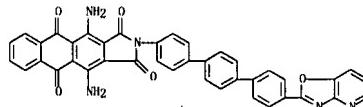
L5 ANSWER 149 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
PAGE 1-B



L5 ANSWER 150 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1987-220065 CAPLUS  
DN 112:220065  
TI Anthraquinone derivative-containing polarization films  
IN Miura, Kono; Ozawa, Tetsuo; Masuda, Narihiro  
PA Mitsubishi Kasei Corp., Japan  
SO Jpn. Kokai Tokkyo Koho, 5 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN CNT 1  
PATENT NO. KIND DATE APPLICATION NO. DATE  
PI JP 01131503 A 19890524 JP 1987-290061 19871117 ←  
PRAI JP 1987-290061  
OS MARPAT 112:220065  
GI

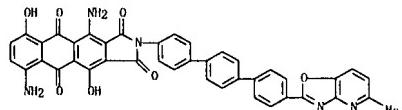


AB Thin films, with high polarization effects and good transparency and heat, moisture, and weather resistance, contain anthraquinone derivs. I [R1-R6 = OH, halo, OH, alkyl, or alkoxyalkyl-substituted] amino; R7 = H or alkyl; X = O, S, or NH; n = 1-3]. A film prepared from a molten mixture of 1000 g poly(ethylene naphthalate) and 1 g I (R1 = R2 = NH2, R3-R7 = H, X = O, n = 1) was stretched 5:1 monoaxially at 140° to give a 100-μm greenish blue film having maximum absorption at 685 nm and dye orientation factor 0.85.  
IT 124489-96-9 124489-99-2 124490-06-8  
RL: USES (Uses)  
(polarizers, polarization films containing, heat- and moisture- and weather-resistant)  
RN 124489-96-9 CAPLUS  
IH-Naphth[2,3-f]isoindole-1,3,5,10(2H)-tetrone, 11-amino-2-(4'-oxazolo[4,5-b]pyridin-2-yl)[1,1':4',1''-terphenyl]-4-yl]-(9Cl) (CA INDEX NAME)

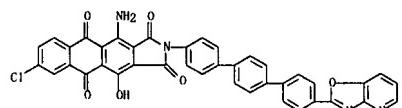


RN 124489-99-2 CAPLUS  
CN IH-Naphth[2,3-f]isoindole-1,3,5,10(2H)-tetrone, 4,9-diamino-6,11-dihydroxy-2-[4'-(5-methylloxazolo[4,5-b]pyridin-2-yl){1,1':4',1''-terphenyl]-4-yl]-(9Cl) (CA INDEX NAME)

L5 ANSWER 150 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 124490-06-8 CAPLUS  
CN IH-Naphth[2,3-f]isoindole-1,3,5,10(2H)-tetrone, 11-amino-7-chloro-4-hydroxy-2-(4'',-oxazolo[4,5-b]pyridin-2-yl)[1,1':4',1''-terphenyl]-4-yl]-(9Cl) (CA INDEX NAME)



L5 ANSWER 151 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1989-554457 CAPLUS  
DN 111:154457  
TI Ring-transmutation polymerization: synthesis and characterization of aromatic polypryridinium salts  
AU Harris, Frank W.; Chuang, Chun Hui K.  
CS Dep. Polym. Sci., Univ. Akron, Akron, OH, 44325, USA  
SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1989), 30(1), 433-4  
CODEN: ACPPAV; ISSN: 0032-3934

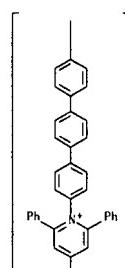
DT Journal  
LA English  
AB Polymerization of 4,4'-p-phenylenebis(2,6-diphenylpyrrolidone) ditetrafluoroborate with aromatic diamines gave soluble, rigid-rod ionene polymers with inherent viscosities of 0.8-2.9 dL/g at 30° in DMF. The liquid-crystalline polymers melted near 400° and had glass temps. 196-269°. TCNO salts of the polymers were doped with neutral TCNO and had elec. conductivities 4 orders of magnitude greater than those of the undoped salts.  
IT 122538-91-4P

RL: SPN (Synthetic preparation): PREP (Preparation)  
(preparation and viscosity and thermal properties of)

RN 122538-91-4 CAPLUS  
CN Poly[(2,6-diphenylpyridinium=1,4-diyl)-1,4-phenylene(2,6-diphenylpyridinium=4,1-diyl)[1,1':4',1''-terphenyl]-4,4'-diyl bis(tetrafluoroborate(1-)]) (9Cl) (CA INDEX NAME)

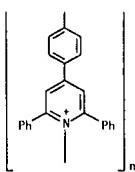
CM 1  
CRN 122538-90-3  
CMF (C58 H40 N2)n  
CCI PMS

PAGE 1-A



L5 ANSWER 151 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 2-A



CN 2

CRN 14874-70-5  
CMF B F4  
CC1 CCS

L5 ANSWER 152 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1989-424013 CAPLUS

DN 111-24013

TJ Soluble aromatic polyimides derived from new phenylated diamines

AU Harris, Frank W.; Sakaguchi, Yoshimitsu

CS Dep. Polym. Sci., Univ. Akron, Akron, OH, 44325, USA

SO Polymeric Materials Science and Engineering (1989), 60, 187-91

CODEN: PMSEDG; ISSN: 0743-0515

DT Journal

LA English

AB 1,3-And 1,4-bis(4-amino-3,5-diphenylphenyl)benzene, 1,4-bis(4-amino-3,5-diphenylphenyl)-2,3,5,6-tetraphenylbenzenes were prepared and polymerized with pyromellitic dianhydride,

3,3',4,4'-biphenylene tracarboxylic dianhydride, 4,4'-oxydipthalic anhydride, or 3,3',4,4'-diphenylsulfonyltetracarboxylic dianhydride to give polyimides.

The polymers exhibited a 5% weight loss in N at temps. 500-600°C as determined by TGA.

IT 121265-78-0P 121265-79-0H 121265-80-3P

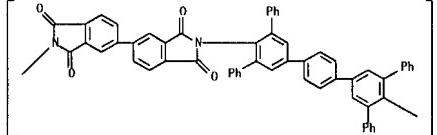
121265-82-5P 121265-83-6P 121265-84-7P

RL SPN (Synthetic preparation): PREP (Preparation)

(preparation and characterization of)

RN 121265-78-0 CAPLUS

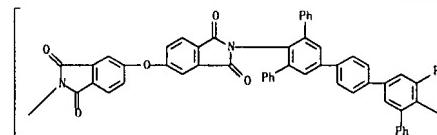
CN Poly[(1,1',3,3'-tetrahydro-1,3-dioxo-2H-isindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)(5',5'',-diphenyl[1,1':3',1'':4',1'''':3'',1''':4'',6'-diyl]) (9CI) (CA INDEX NAME)]



RN 121265-79-0 CAPLUS

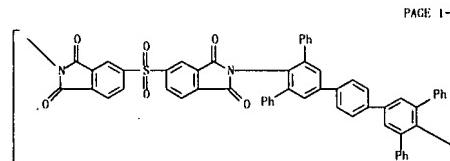
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)(5',5'',-diphenyl[1,1':3',1'':4',1'''':3'',1''':4'',6'-diyl]) (9CI) (CA INDEX NAME)]

PAGE 1-A



L5 ANSWER 152 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

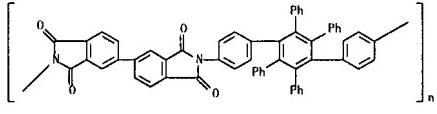
PAGE 1-B

RN 121265-80-3 CAPLUS  
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)sulfonyl(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)(5',5'',-diphenyl)[1,1':3',1'':4',1'''':3'',1''':4'',6'-quinquephenyl]-4',6'-diyl] (9CI) (CA INDEX NAME)

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RN 121265-82-5 CAPLUS  
CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isindole]-2,2'-diyl)(2',3',5',6'-tetraphenyl[1,1':4',1'':4',1'''':4'',1''':4'',6'-phenylene] (9CI) (CA INDEX NAME)]

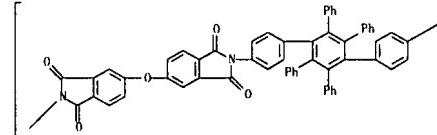
L5 ANSWER 152 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 121265-80-6 CAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)(2',3',5',6'-tetraphenyl[1,1':4',1'':4'',6'-terphenyl]-4,4'-diyl) (9CI) (CA INDEX NAME)]

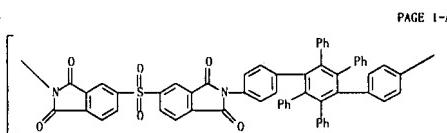
PAGE 1-A



PAGE 1-B

RN 121265-84-7 CAPLUS  
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)sulfonyl(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)(2',3',5',6'-tetraphenyl[1,1':4',1'':4'',6'-terphenyl]-4,4'-diyl) (9CI) (CA INDEX NAME)]

L5 ANSWER 152 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



PAGE 1-B

]

L5 ANSWER 153 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1989-125300 CAPLUS  
DN 110:125300  
TI Stabilized polysilylene for imaging member

IN Johnson, Gordon E.; Stolka, Milan; Weagley, Ronald J.; Roberts, Frederick J., Jr.; Bedsha, Santosh S.

PA Xerox Corp., USA

SD U.S. 7 gen.

CODEN: USXXAM

DT Patent

LA English

FAN. CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE

PI US 4758488 A 19880719 US 1987-88366 19870824 &lt;-

PRAI US 1987-88366 19870824

AB A photoresistive imaging member is comprised of a support, a photogenerating layer, and a hole-transporting layer containing a polysilylene stabilized with a component possessing an ionization potential equal to or greater than that of the polysilylene and exhibiting a emission spectrum which overlaps the fluorescent spectrum of the polysilylene. The hole-transporting layer does not degrade on irradiation with UV radiation. Thus, a solution of poly(methylphenylsilylene) was added with 9,10-diphenylanthracene. The mixture was used to form a film which was stable when subjected to UV irradiation for 5 min.

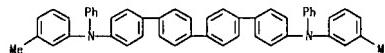
IT 119429-17-3

RL: USES (Uses)

(UV stabilization of polysilylene with)

RN 119429-17-3 CAPLUS

CN [1,1':4',1":4",1'''-Quaterphenyl]-4,4'''-diamine, N,N'-bis(3-methylphenyl)-N,N'-diphenyl- (9CI) (CA INDEX NAME)



L5 ANSWER 154 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1988-94360 CAPLUS

Correction of: 1988-509706

DN 110:94360

Correction of: 109:109706

T1 Triplet-triplet absorption spectra of organic molecules in condensed phases.

AU Carmichael, Ian; Hug, Gordon L.

CS Radial, Chem. Data Cent., Univ. Notre Dame, IN, 46556, USA

SO Journal of Physical and Chemical Reference Data (1986), 15(1), 1-250

CODEN: JPCRBU; ISSN: 0047-2689

DT Journal

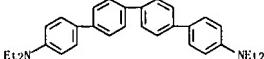
LA English

AB A review in which a compilation is given of spectral parameters associated with triplet-triplet absorption of organic molecs. in condensed media. The wavelengths of maximum absorbance and the corresponding extinction coeffs., where known, were critically evaluated. Other data, for example, lifetimes, energies, and energy transfer rates, relevant to the triplet states of these molcs., are included by way of comments, but have not been subjected to a similar scrutiny. An introduction is given to triplet state processes in solution and solids, developing the conceptual background and offering a historical perspective on the detection and measurement of triplet state absorption. Techniques employed to populate the triplet state are reviewed and the various approaches to the estimation of the extinction coefficient of triplety-triplet absorption are discussed. A statistical anal. of the available data is presented and recommendations for a hierarchical choice of extinction coeffs. are made. Data collection is expected to complete through the end of 1984.

IT 53693-68-8

RL: PRP (Properties)

(Triplet-triplet absorption spectrum of)

RN 53693-68-8 CAPLUS  
CN [1,1':4',1":4",1'''-Quaterphenyl]-4,4'''-diamine, N,N',N'-tetraethyl- (9CI) (CA INDEX NAME)

L5 ANSWER 155 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1988-611753 CAPLUS

DN 109:211753

T1 Chemical structures and properties of low thermal expansion coefficient polyimides

AU Numata, Shunichi; Kinjo, Noriyuki; Makino, Daisuke

CS Hitachi Res. Lab., Hitachi, Ltd., Hitachi, 319-12, Japan

SO Polymer Engineering and Science (1988), 28(14), 906-11

CODEN: PYESAZ; ISSN: 0032-3888

DT Journal

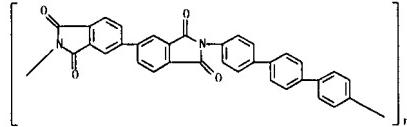
LA English

AB The thermal expansion coeffs. ( $\alpha$ ) of various polyimides obtained from pyromellitic dianhydride (1), or 3,3',4,4'-benzophenonetetracarboxylic dianhydride and aromatic diamines were reported. Low  $\alpha$  values obtained for 1- and 11-based polyimides were related to the linearity of the polymer backbone. Thermal stresses in polyimide coatings on Si wafers and stainless steel were measured and discussed.

IT 26402-03-9 83932-46-1

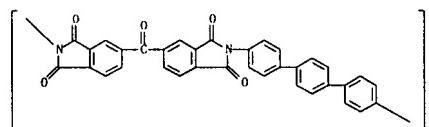
RL: PRP (Properties)

(thermal expansion coefficient of)

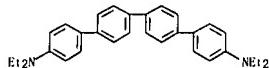
RN 26402-03-9 CAPLUS  
CN Poly[(1,1',3,3'-terahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isindole]-2,2'-diyl)[1,1':4',1'''-terphenyl]-4,4'''-diyl] (9CI) (CA INDEX NAME)

RN 83932-46-1 CAPLUS

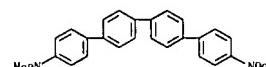
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)carbonyl(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)[1,1':4',1'''-terphenyl]-4,4'''-diyl] (9CI) (CA INDEX NAME)



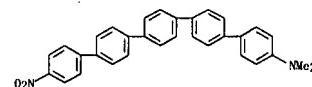
L5 ANSWER 156 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1988:509706 CAPLUS  
 Correction of: 1986:552243  
 DN 109:109706  
 Correction of: 105:152243  
 TI Triplet-triplet absorption spectra of organic molecules in condensed phases  
 AU Carmichael, Ian; Hug, Gordon L.  
 CS Radial, Chem. Data Cent., Univ. Notre Dame, Notre Dame, IN, 46556, USA  
 SO Journal of Physical and Chemical Reference Data (1986), 15(1), 1-250  
 CODEN: JPCRDU; ISSN: 0047-2689  
 DT Journal: General Review  
 LA English  
 AB A review in which a compilation is given of spectral parameters associated with triplet-triplet absorption of organic molcs. in condensed media. Other data, for example, lifetimes, energies and energy transfer rates, relevant to the triplet states of these molcs., are included by way of comments, but have not been subjected to a similar scrutiny. An introduction is given to the static properties of aromatic solids, including the conceptual background and offering an historical perspective on the detection and measurement of triplet state absorption. Techniques employed to populate the triplet state are reviewed and the various approaches to the estimation of the extinction coefficient of triplet-triplet absorption are discussed. A statistical anal. of the available data is presented and recommendations for a hierarchical choice of extinction coeffs. are made. Data collection is expected to be complete through the end of 1984.  
 IT 53693-68-8  
 RL: PRP (Properties)  
 (triplet-triplet absorption spectrum of)  
 RN 53693-68-8 CAPLUS  
 CN [1,1':4',1'';4',1'''-Quaterphenyl]-4,4'''-diamine, N,N,N',N'-tetraethyl- (9Cl) (CA INDEX NAME)



L5 ANSWER 157 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1988:1445658 CAPLUS  
 DN 109:15658  
 TI A CNDOVSB program for the calculation of second-order molecular polarizabilities, and its application  
 AU Allen, S.; Morley, J. D.; Pugh, D.; Docherty, V. J.  
 CS Electron. Group, ICI, Runcorn/Cheshire, UK  
 SO Proceedings of SPIE-The International Society for Optical Engineering (1987), 682(Mol. Polym. Optoelectron. Mater.: Fundam. Appl.), 20-6  
 CODEN: PSISDG; ISSN: 0277-786X  
 DT Journal  
 LA English  
 AB A semiempirical CNDOVSB computer program was developed to calculate the 2nd-order nonlinear optical polarizabilities of molcs. The program was parameterized by comparison of calculated and exptl. values of mol. properties over a large wavelength range. The use of the program is described, both in the evaluation of the potential of specific compds. and also to study polymeric systems. In particular, the effect of conjugation length on the nonlinear optical properties of polyphenyls and polyphenyleneethers is studied.  
 IT 107716-13-2 107716-14-3 107716-15-4  
 107716-16-5 108030-45-1  
 RL: PRP (Properties)  
 (second-order nonlinear optical polarizability of, computer program for calcn. of)  
 RN 107716-13-2 CAPLUS  
 CN [1,1':4',1'';4',1'''-Quaterphenyl]-4-amine, N,N-dimethyl-4'''-nitro- (9Cl) (CA INDEX NAME)



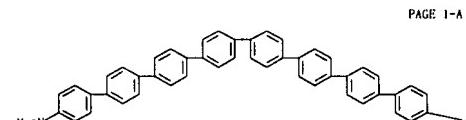
RN 107716-14-3 CAPLUS  
 CN [1,1':4',1'';4',1'''-Quinquephenyl]-4-amine, N,N-dimethyl-4'''-nitro- (9Cl) (CA INDEX NAME)



RN 107716-15-4 CAPLUS  
 CN [1,1':4',1'';4',1'''-4,4'''-1,1'''-4,4'''-1,1'''-4,4'''-1,1'''-4-Septiphenyl]-4-amine, N,N-dimethyl-4'''-nitro- (9Cl) (CA INDEX NAME)

L5 ANSWER 157 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

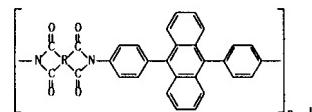
RN 107716-16-5 CAPLUS  
 CN [1,1':4',1'';4',1'''-4,4'''-1,1'''-4,4'''-1,1'''-4,4'''-1,1'''-Octiphenyl]-4-amine, N,N-dimethyl-4'''-nitro- (9Cl) (CA INDEX NAME)



L5 ANSWER 158 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1988:188098 CAPLUS  
 DN 108:188098  
 TI Diphenylanthracene-containing polyimide films  
 IN Ota, Takayuki; Yamamoto, Tokio; Takamiya, Naoki; Kasai, Tetsuo  
 PA Mitsubishi Chemical Industries Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF

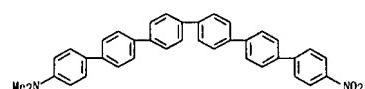
DT Patent  
 LA Japanese  
 FAN. CNT 1  
 PATENT NO. KIND DATE APPLICATION NO. DATE  
 PI JP 62232436 A 19871012 JP 1986-75760 19860402 --  
 PRAI JP 1986-75760 19860402 GI



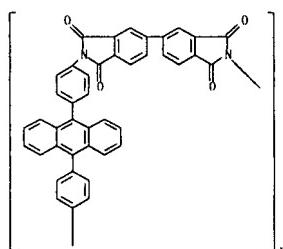
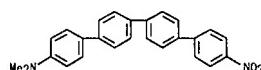
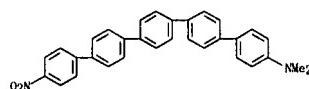
AB Heat-resistant films with high tensile modulus and strength are prepared from polyimides 1 ( $R =$  tetravalent aromatic group) with inherent viscosity ( $\eta$ ) (at 30° in 97% concentrated H2SO4 at 0.5 g/dL concentration) 0.1-10 dL/g via precursor polyamic acids with  $\eta$  (at 30° in N-methylpyrrolidone at 0.5 g/dL concentration) 0.1-10 dL/g. Thus, a solution of 21.63 g 9,10-bis(4-aminophenyl)anthracene in 280 mL N,N-dimethylacetamide (1) was mixed with 17.66 g 3,3',4,4'-biphenyltetracarboxylic dianhydride and 240 g 11 and reacted 24 min to give a 7.45% polyamic acid solution  $\eta$  3.8 dL/g, which was cast 10 min on a glass plate at 120°, heated to 250° during 15 min, and heated 4 min at 350° to give a 25-μ polyimide film having tensile modulus 550 kg/mm<sup>2</sup>, tensile strength 26 kg/mm<sup>2</sup>, elongation 30%, glass transition temperature apprx. 500°, and 1.4 dL/g.  
 IT 106725-35-3  
 RL: USES (Uses)  
 (films, with good heat resistance and high tensile modulus)  
 RN 106725-35-3 CAPLUS  
 CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isooindole]-2,2'-diyl)-1,4-phenylene-9,10-anthracenediyl]-1,4-phenylene (9Cl) (CA INDEX NAME)

—NO<sub>2</sub>

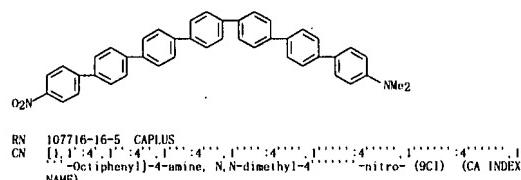
RN 108030-45-1 CAPLUS  
 CN [1,1':4',1'';4',1'''-4,4'''-1,1'''-4,4'''-Sexiphenyl]-4-amine, N,N-dimethyl-4'''-nitro- (9Cl) (CA INDEX NAME)



I.5 ANSWER 158 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

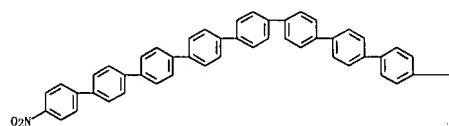
I.5 ANSWER 159 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1988-186108 CAPLUS  
DN 108-186108TI Non-linear optical properties of organic molecules. Part 2. Effect of conjugation length and molecular volume on the calculated hyperpolarizabilities of polyphenyls and polyenes.  
AU Morley, John O.; Docherty, Vincent J.; Pugh, David  
CS Org. Div., Imp. Chem. Ind. PLC, Blackley/Manchester, M9 3DA, UK  
SO Journal of the Chemical Society, Perkin Transactions 2: Physical Organic Chemistry (1972-1999) (1987), (9), 1351-5  
CODEN: JCPOBH; ISSN: 0300-9588DT Journal  
LA English  
AB The calculated hyperpolarizabilities of the sym. polyphenyls, containing an electron-donating dimethylamino group and an electron-attracting nitro group positioned at opposite ends of the conjugated system, slowly increase with an increasing number of Ph units; the effect per unit volume is a maximum for 4-dimethylaminophenyl-4'-nitrophenyl. In contrast, the calculated values for polyenes containing the same donor and attractor increase rapidly with an increasing number of ethenyl units, and the effect per unit volume is a maximum for 20 units. Overall, the polyene system shows an effect which is at least 20 times that of the polyphenyl system and 10 times that of any other known system. A similar effect is also found in the dimethylaminopolypHENYLs, though a comparison between calculated and exp. dipole moments and electronic transition energies suggests that their hyperpolarizabilities may be somewhat overestimated at the CNDQ level of approximation.IT 107716-13-2 107716-14-3 107716-15-4  
107716-16-5 108030-45-1 114261-05-1  
RL: PRP (Properties)  
(hyperpolarizabilities and nonlinear optical properties of, MO calcd.  
of)RN 107716-13-2 CAPLUS  
CN [1,1':4",1":4',1":4",1":4",1":4",1":4",1":4",1":4",1":4"]-Quinquephenyl)-4-amine,  
N,N-dimethyl-4"-nitro- (9CI) (CA INDEX NAME)RN 107716-14-3 CAPLUS  
CN [1,1':4",1":4',1":4",1":4",1":4",1":4",1":4",1":4"]-Quinquephenyl)-4-amine,  
N,N-dimethyl-4"-nitro- (9CI) (CA INDEX NAME)RN 107716-15-4 CAPLUS  
CN [1,1':4",1":4',1":4",1":4",1":4",1":4",1":4",1":4",1":4"]-Septiphenyl)-  
4-amine, N,N-dimethyl-4"-nitro- (9CI) (CA INDEX NAME)

I.5 ANSWER 159 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

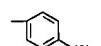
RN 107716-16-5 CAPLUS  
CN [1,1':4",1":4',1":4",1":4",1":4",1":4",1":4",1":4",1":4"]-Octiphenyl)-4-amine, N,N-dimethyl-4"-nitro- (9CI) (CA INDEX NAME)

I.5 ANSWER 159 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

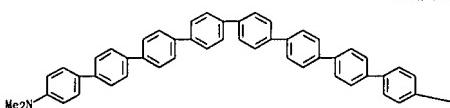
PAGE I-A



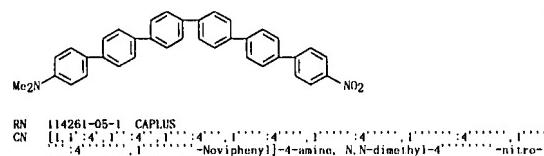
PAGE I-B



PAGE I-A



PAGE I-B

-NO<sub>2</sub>RN 108030-45-1 CAPLUS  
CN [1,1':4",1":4',1":4",1":4",1":4",1":4",1":4",1":4"]-Sexiphenyl)-4-amine,  
N,N-dimethyl-4"-nitro- (9CI) (CA INDEX NAME)RN 114261-05-1 CAPLUS  
CN [1,1':4",1":4',1":4",1":4",1":4",1":4",1":4",1":4",1":4"]-Noviphenyl)-4-amine, N,N-dimethyl-4"-nitro-  
(9CI) (CA INDEX NAME)

-

I.5 ANSWER 160 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1988-122933 CAPLUS

DN 108-122933

TI Manufacture of flexible substrates for printed circuits

IN Toko, Akira; Takeda, Toshiro; Anakuma, Sumitoshi

PA Sumimoto Bakelite Co., Ltd.; Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN, CNT 1

| PATENT NO.         | KIND | DATE       | APPLICATION NO. | DATE        |
|--------------------|------|------------|-----------------|-------------|
| JP 62236732        | A    | 1987/01/06 | JP 1986-79269   | 19860408 -- |
| PRA1 JP 1986-79269 |      | 19860408   |                 |             |

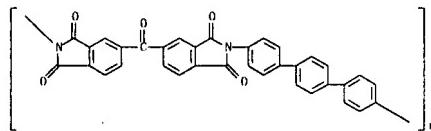
AB In forming a flexible substrate for a printed circuit, a polyimide acid, which has hardening shrinkage rate of <4%, linear expansion coefficient of <3.0 + 10<sup>-5</sup> °C, and extension modulus constant of 500 kg/mm<sup>2</sup>, is directly coated on a metal (e.g., Al) foil, and the coated foil is heated for hardening the polyimide acid. The hardened polyimide acid has extension rate of 5-25%, and its mol. unit has a 50-60% ladder. The substrate has excellent thermal resistance and mech. characteristics.

IT 83932-46-1

RL: USES (Uses)  
(flexible substrates from metal foils coated with, for printed circuits)

RN 83932-46-1 CAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diy)carbonyl(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diy)[1,1':4',1"-terphenyl]-4,4"-diyl] (9Cl) (CA INDEX NAME)



I.5 ANSWER 161 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1988-122080 CAPLUS

DN 108-122080

TI Ferroelectric liquid crystal devices equipped with orientation control

films on support plates

IN Kitayama, Hiroyuki; Katagiri, Kazuharu; Yoshinaga, Kazuo; Tsuboyama, Akira

PA Canon K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 13 pp.

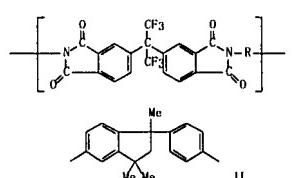
CODEN: JKXXAF

DT Patent

LA Japanese

FAN, CNT 1

| PATENT NO.         | KIND | DATE       | APPLICATION NO. | DATE        |
|--------------------|------|------------|-----------------|-------------|
| JP 62231937        | A    | 1987/01/12 | JP 1986-72574   | 19860401 -- |
| PRA1 JP 04066488   | B    | 1992/10/23 |                 |             |
| PRA1 JP 1986-72574 |      | 19860401   |                 |             |



AB A liquid crystal device suited for use as a display or an optical switch comprises a pair of parallel support plates and a multiplicity of ferroelectric, bistable nonhelically chiral smectic liquid crystalline layers having a mol. arrangement perpendicular to the plates, wherein 21 plate is coated with a polymer capable of preferentially orienting in the layers and having a structural repeating unit I (R = II, p-phenylene, m-phenylene, p-C6H4Z-pC6H4, 1,5-naphthylene; Z = bond, O, CH2, S, SO2, CO, p-C6H4).

IT 113245-49-1

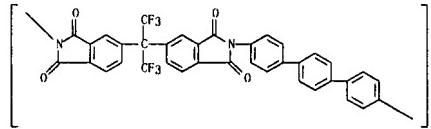
RL: USES (Uses)  
(orientation control film from, for liquid crystal devices)

RN 113245-49-1 CAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diy)[2,2'-trifluoro-1-(trifluoromethyl)ethylenidene](1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diy)[1,1':4',1"-terphenyl]-4,4"-diyl] (9Cl) (CA INDEX NAME)

I.5 ANSWER 161 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

(Continued)



I.5 ANSWER 161 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1988-122079 CAPLUS

DN 108-122079

TI Ferroelectric liquid crystal devices equipped with orientation control

films on support plates

IN Katagiri, Kazuharu; Shinjo, Kenji; Yoshinaga, Kazuo; Tsuboyama, Akira; Kitayama, Hiroyuki

PA Canon K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 14 pp.

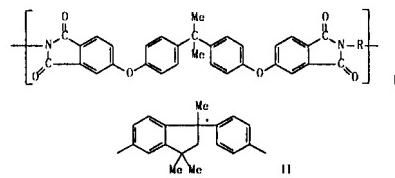
CODEN: JKXXAF

DT Patent

LA Japanese

FAN, CNT 1

| PATENT NO.         | KIND | DATE       | APPLICATION NO. | DATE        |
|--------------------|------|------------|-----------------|-------------|
| JP 62231936        | A    | 1987/01/12 | JP 1986-72573   | 19860401 -- |
| PRA1 JP 1986-72573 |      | 19860401   |                 |             |



AB A liquid crystal device suited for use as a display or an optical switch comprises a pair of parallel support plates and a multiplicity of ferroelectric, bistable nonhelically chiral smectic liquid crystalline layers having a mol. arrangement perpendicular to the plates, wherein 21 plate is coated with a polymer capable of preferentially orienting in the layers and having a structural repeating unit I (R = II, p-phenylene, m-phenylene, p-C6H4Z-pC6H4, 1,5-naphthylene; Z = bond, O, CH2, S, SO2, CO, p-C6H4).

IT 113263-77-7

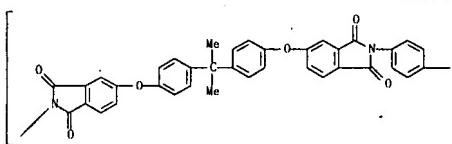
RL: USES (Uses)  
(orientation control film from, for liquid crystal devices)

RN 113263-77-7 CAPLUS

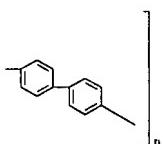
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diy)oxy-1,4-phenylene(1-methylethylene)-1,4-phenyleneoxy(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diy)[1,1':4',1"-terphenyl]-4,4"-diyl] (9Cl) (CA INDEX NAME)

L5 ANSWER 162 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE I-A



PAGE I-B



L5 ANSWER 163 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1988-122078 CAPLUS

DN 108-122078

TI Ferroelectric liquid crystal devices equipped with orientation control

film layers on support plates

IN Shinjo, Kenji; Katagiri, Kazuharu; Kitayama, Hiroyuki; Yoshinaga, Kazuo;

Tsuboyama, Akira

PA Canon K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

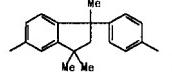
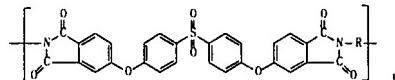
FAN CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE

PI JP 62231935 A 19871012 JP 1986-72572 19860401 &lt;&gt;

PRA1 JP 1986-72572

GI



AB A liquid crystal device suited for use as a display or an optical switch comprises a pair of parallel support plates and a multiplicity of ferroelectric, bistable nonchiral smectic liquid crystalline layers having a mol. arrangement perpendicular to the plates, wherein 2<sup>1</sup> plate is coated with a polymer capable of preferentially orienting in the layers and having a structural repeating unit I (R = II, p-phenylene, m-phenylene, p-C6H4Z-pC6H4M, 1,5-naphthylene; Z = bond, O, CH2, S, SO2, CO, p-C6H4).

IT 113263-86-8

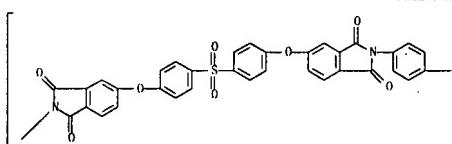
RL: USES (Uses)  
(orientation control film from, for liquid crystal devices)

RN 113263-86-8 CAPLUS

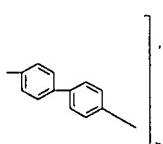
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)oxy-1,4-phenyleneoxy]-(1,4-phenyleneoxy-1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)[1,1':4',1''-terphenyl]-4,4'-diyl] (9Cl) (CA INDEX NAME)

L5 ANSWER 163 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

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L5 ANSWER 164 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1988-95836 CAPLUS

DN 108-95836

TI Manufacture of polyimide-coated copper foils for flexible printed circuit boards

IN Toko, Akira; Takeda, Toshiro; Asakuma, Sumitoshi

PA Sumitomo Bakelite Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE

PI JP 62212139 A 19870918 JP 1986-54886 19860314 &lt;&gt;

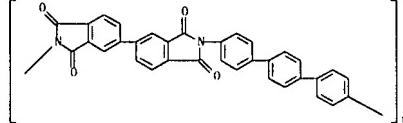
PRA1 JP 1986-54886 19860314  
AB Title foils are manufactured by applying directly to metal foils polyamic acids capable of forming polyimides with a structural unit of mol. weight >450 and degree of laddering (number of aromatic and heterocyclic rings divided by number of bonds in the main chain in the structural unit) 100, 50-60% and curing. Thus, a 20% solution of 1 mol. 4,4'-bis(4-aminophenoxy)biphenyl in a 90:10 mixture of N-methyl-2-pyrrolidone and PhMe was treated with 1 mol pyromellitic anhydride at 20° for 10 h under N to give polyamic acid solution, which was applied to a Cu foil and heated at 80, 150, 250, and 350° for 30 min at each temperature to give a curl-free composite. The composite, after patterning and etching, was free of curl and wrinkles and the polyimide film remaining after complete etching-off of the Cu showed linear expansion coefficient 2.5 + 10<sup>-5</sup> and thermal decomposition temperature 2500°. The polyimide had a structural unit with mol. weight (calculated) 550 and degree of laddering 50.0%.

IT 26402-03-9

RL: USES (Uses)  
(coatings on copper foils, for flexible printed circuit boards)

RN 26402-03-9 CAPLUS

CN Poly[(1,1',3,3'-tetrahydro-1',3,3'-tetraoxo[5,5'-bi-2H-isindole]-2,2'-diyl)[1,1':4',1''-terphenyl]-4,4'-diyl] (9Cl) (CA INDEX NAME)

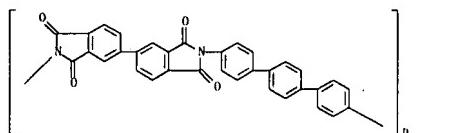


L5 ANSWER 165 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1988:76160 CAPLUS  
 DN 108-76160

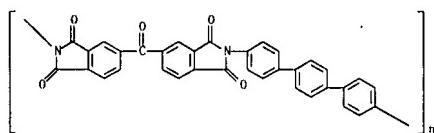
TI Reexamination of the relationship between packing coefficient and thermal expansion coefficient for aromatic polyimides  
 AU Numata, Shunichi; Fujisaki, Koji; Kinjo, Noriyuki  
 CS Hitachi Res. Lab., Hitachi Ltd., Ibaraki, 319-12, Japan  
 SO Polymer (1987), 28(13), 2282-8  
 CODEN: POLMAG; ISSN: 0032-3861

DT Journal  
 LA English  
 AB The existence of a possible relationship between the mol. packing coefficient and the thermal expansion coefficient for various atom. polyimides was investigated. Rodlike low-thermal-expansion polyimides without side groups had very high packing coeffs., pointing to free volume as a factor in lowering their thermal expansion coeffs. But the small packing coeffs. for low-thermal-expansion polyimides with side groups indicated that this was not so. Likewise, if the large packing coeffs. tended to increase the Young's moduli for these polyimides without side groups, the rodlike polyimides with side groups had small packing coeffs. and large Young's moduli. The polyimides with low packing coeffs. had very small diffusion coeffs. for water vapor.

IT 26402-03-9 83932-46-1  
 RL: PRP (Properties)  
 (thermal expansion coefficient of, packing coefficient in relation to)  
 RN 26402-03-9 CAPLUS  
 CN Poly[(1,1'-3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isindole]-2,2'-diyl)[1,1'-4',1'-terphenyl]-4,4'-diyl] (9CI) (CA INDEX NAME)



RN 83932-46-1 CAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)carbonyl(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)][1,1':4',1'-terphenyl]-4,4'-diyl] (9CI) (CA INDEX NAME)



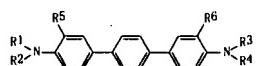
L5 ANSWER 166 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1988:65094 CAPLUS  
 DN 108-65094

TI Electrophotographic charge-transporting terphenyl derivative  
 IN Kikuchi, Norihiro; Takiguchi, Takao; Umehara, Masahige; Takahashi, Hideyuki; Koyama, Takashi; Matsumoto, Masakazu  
 PA Canon K. K., Japan  
 SO Jpn. Kokai Tokkyo Koho, 18 pp.  
 CODEN: JXKXAF

DT Patent  
 LA Japanese  
 FAN CNT 1  

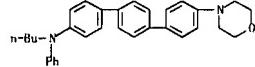
| PATENT NO.         | KIND | DATE     | APPLICATION NO. | DATE        |
|--------------------|------|----------|-----------------|-------------|
| PI JP 62195667     | A    | 19870928 | JP 1986-37209   | 19860224 <- |
| JP 06073018        | B    | 19940914 |                 |             |
| PRAI JP 1986-37209 |      |          | 19860224        |             |

 CI



AB A charge-transporting p-terphenyl derivative is used to prepare an electrophotog. composite photoconductor to improve its sensitivity and stability in the dark and light elec. potentials for repeated uses. The p-terphenyl derivative has the formula:  $(R_1R_4-$ alkyl, aryl, aralkyl, but they are not simultaneously aryl;  $R_1-R_2$  and  $R_3-R_4$  may form 5-6-membered ring with N;  $R_5, R_6 = H, alkyl, alkoxy, etc.$ ).

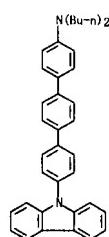
IT 112607-45-1 P 112607-47-3P  
 RL: SPN (Synthetic preparation): PREP (Preparation)  
 (preparation and use of, as electrophotog. charge-transporting agent)  
 RN 112607-45-1 CAPLUS  
 CN [(1,1'-4',1'-Terphenyl)-4-amine, N,N-dibutyl-4'-(4-morpholinyl)-N-phenyl-](9CI) (CA INDEX NAME)



RN 112607-47-3 CAPLUS  
 CN [(1,1'-4',1'-Terphenyl)-4-amine, N,N-dibutyl-4'-(9H-carbazol-9-yl)-](9CI) (CA INDEX NAME)

L5 ANSWER 166 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

L5 ANSWER 166 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L5 ANSWER 167 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1987-566247 CAPLUS  
 DN 107-166247

TI High dielectric liquid crystal elements  
 IN Era, Susumu; Iwasaki, Kishiro; Yokokura, Hisao; Hanawa, Yasuo; Kondo, Katsumi; Nakada, Tadao; Kimura, Teruo; Kobi, Akio  
 PA Hitachi, Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese  
 FAN CNT 1

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE         |
|-------------|------|----------|-----------------|--------------|
| JP 61231525 | A    | 19861015 | JP 1985-72642   | 19850408 <-- |
| US 5020883  | A    | 19910604 | US 1988-263982  | 19881027 <-- |

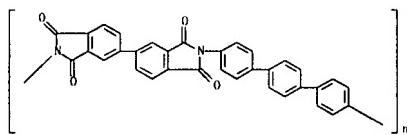
PRAI JP 1985-72642 A 19850408 US 1986-849382 B3 19860408  
 AB The title element having good contrast qualities comprises a pair of opposite substrates, one for applying an electric field to the liquid crystal layer, a mol. orientation layer which is an oriented polyimide having  $\beta$ -dispersion temperature higher than the hardening temperature of the sealing material, and a sealing material such as an epoxy resin. The element is used in fabricating photoswitches and array printing heads. Thus, 3,3',4,4-biphenyletetracarboxylic anhydride=2,5-diaminotoluene polyimide was used as a mol. orientation film in a liquid crystal element.

IT 26402-03-9

RL: PRP (Properties)  
 (beta-dispersion temperature and contrast ratio of)

RN 26402-03-9 CAPLUS

CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isindole]-2,2'-diyl)[1,1':4,1''-terphenyl]-4,4'-diyl] (9CI) (CA INDEX NAME)



L5 ANSWER 168 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1987-55255 CAPLUS  
 DN 105-165255

TI Aromatic polyimides  
 IN Nakano, Tsunetomo; Nakajima, Kohei; Nishio, Itsusho  
 PA Ube Industries, Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF

DT Patent

LA Japanese

FAN CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|------|-----------------|------|
|------------|------|------|-----------------|------|

PI JP 61195125 A 19860829 JP 1985-35335 19850226 <--

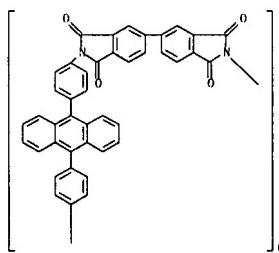
PRAI JP 1985-35335 19850226  
 AB Soluble aromatic polyimides with high heat resistance, useful as elec. insulators, are prepared from 10-bis(p-aminophenyl)anthracene (I) and biphenyletetracarboxylic acid (derivative) or benzophenonetetracarboxylic acid (IV) and pyridine. Thus, 40.31 g p-aminobiphenyl, 40.31 g terephthalic diimide and 1.291 g l in 12.0 ml N-methyl-2-pyrrolidone (II) was polymerized at 20° for 5 h to give a polyimide (inherent viscosity 1.45), which was imidized at 50° for 2 h after the addition of (Ac)20 and pyridine in benzene to give a polyimide exhibiting good solubility in II (concentration 27.0% at 25°) and thermal decomposition temperature 480°.

IT 106725-35-3P 106725-36-4P

RL: PREP (Preparation)  
 (soluble, heat-resistant, for elec. insulators, preparation of)

RN 106725-35-3 CAPLUS

CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isindole]-2,2'-diyl)-1,4-phenylene-9,10-anthracenediyl-1,4-phenylene] (9CI) (CA INDEX NAME)



RN 106725-36-4 CAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)carbonyl(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)-1,4-phenylene-9,10-anthracenediyl-1,4-phenylene] (9CI) (CA INDEX NAME)

L5 ANSWER 168 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

L5 ANSWER 169 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1986-572730 CAPLUS  
 DN 105-173730

TI Resins with low thermal expansion  
 IN Nunata, Shunichi; Fujisaki, Koji; Kaneshiro, Tokuyuki; Imaizumi, Junichi; Mikami, Yoshikatsu  
 PA Hitachi, Ltd., Japan; Hitachi Chemical Co., Ltd.  
 SO Jpn. Kokai Tokkyo Koho, 17 pp.  
 CODEN: JKXXAF

DT Patent

LA Japanese

FAN CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|------|-----------------|------|
|------------|------|------|-----------------|------|

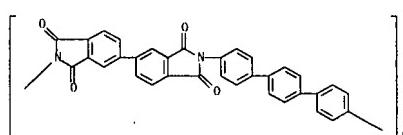
PI JP 61060725 A 19860228 JP 1984-180549 19840831 <--  
 JP 07040620 B 19950501 19840831

PRAI JP 1984-180549 19840831  
 AB The title resins, useful in the manufacture of electronic devices, are oriented polyimides containing aromatic units rotating around the mol. axis and showing no flexibility in other directions. Thus, 40.31 g p-phenylenediamine in 850 g N-methyl-2-pyrrolidone was treated with 103 g 3,3',4,4'-benzophenonetetracarboxylic diimide at 0-50° for 5 h, cast on glass, dried 30-60 min at 80-100°, baked with or without tension at 200, 300, and 400° (1 h each), and heated at 400° to give a film (30-200  $\mu$ ) with linear thermal expansion coefficient 0.9 + 10-5 (under tension) and 2.1 + 10-5 K-1 (without tension).  
 IT 26402-03-9P

RL: PREP (Preparation)  
 (manufacture of, with low linear thermal expansion)

RN 26402-03-9 CAPLUS

CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isindole]-2,2'-diyl)[1,1':4,1''-terphenyl]-4,4'-diyl] (9CI) (CA INDEX NAME)



L5 ANSWER 170 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1986:130593 CAPLUS  
 DN 104:130593

TI Thermal expansion behavior of various aromatic polyimides  
 AU Numata, Shun'ichi; Oohara, Shuichi; Fujisaki, Koji; Imaizumi, Jun'ichi; Kinjo, Noriyuki  
 CS Hitachi Res. Lab., Hitachi Ltd., Hitachi, 319-12, Japan  
 SO Journal of Applied Polymer Science (1986), 31(1), 101-10  
 CODEN: JAPNAB; ISSN: 0021-8995

DT Journal

LA English

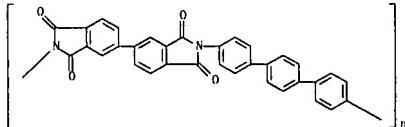
AB Expansion coeffs. ( $\times 10^{-5}$  K $^{-1}$ ) were observed for the polyimides obtained from pyromellitic dianhydride or 3,3',4,4'-biphenyltetracarboxylic dianhydride and aromatic diamines containing only benzene rings fused at para positions. Their low thermal expansion coefficient was related to the linearity in their mol. skeletons.

IT 26402-03-9 83932-46-1

RL: PRP (Properties)  
 (thermal expansion of)

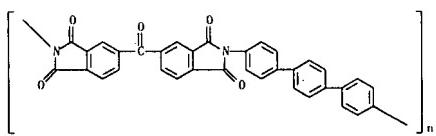
RN 26402-03-9 CAPLUS

CN Poly[(1,1':3,3'-tetrahydro-1',1',3,3'-tetraoxo[5,5'-bi-2H-isoindole]-2,2'-diyl)[1,1':4',1''-terphenyl]-4,4'-diyl] (9Cl) (CA INDEX NAME)



RN 83932-46-1 CAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole)-2,5-diyl]carbonyl[(1,3-dihydro-1,3-dioxo-2H-isoindole)-5,2-diyl][1,1':4',1''-terphenyl]-4,4'-diyl] (9Cl) (CA INDEX NAME)



L5 ANSWER 171 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1986:99645 CAPLUS

DN 104:99645  
 TI Ferroelectric liquid crystal cell  
 IN Iwasaki, Kishiro; Era, Susumu; Yokokura, Hisao; Nakata, Tadao; Mukoh, Akio  
 PA Hitachi, Ltd., Japan  
 SO Eur. Pat. Appl., 20 pp.  
 CODEN: EPXXDW

DT Patent

LA English

FAN, CNT, I

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|------|-----------------|------|
|------------|------|------|-----------------|------|

PJ EP 160302 A2 19851106 EP 1985-105290 19850430 <-

EP 160302 A3 19881130

EP 160302 B1 19930721

R: CH, DE, FR, GB, LI, NL

PRA1 JP 1984-06235 A 19840501

JP 1984-116455 A 19840608

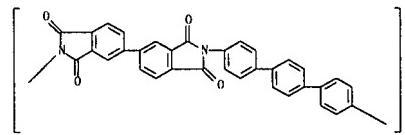
AB A method of controlling film for a ferroelec. liquid crystal display cell consisting of polyimide film prepared by ring closure (by heating and dehydrating) of a polyamic acid synthesized by condensing pyromellitic dianhydride and p-phenylenediamine. Thus, 3,3',4,4'-diphenyltetracarboxylic anhydride and p-phenylenediamine were condensed in a mol. ratio 1:1 to give a polyamic acid which was then diluted to a concentration of 3.5 weight% with N-ethyl-2-pyrrolidone. The obtained solution was coated on a glass supported transparent indium tin oxide electrode layer, heated at 250° for 1 h to give 80 nm thick polyimide film, and rubbed with a cloth. A display cell prepared using 2 of the above elements and p-decyloxybenzylidene-p'-amino-2-methylbutylcinnamate liquid crystal exhibited a contrast ratio of 18 (under applied voltage of 20 V). The dielectric strength of the polyimide coating was 4 + 106 V/cm.

IT 26402-03-9

RL: USES (Uses)  
 (orientation controlling film for ferroelec. liquid crystal display cell prepared from preparation of)

RN 26402-03-9 CAPLUS

CN Poly[(1,1':3,3'-tetrahydro-1',1',3,3'-tetraoxo[5,5'-bi-2H-isoindole]-2,2'-diyl)[1,1':4',1''-terphenyl]-4,4'-diyl] (9Cl) (CA INDEX NAME)



L5 ANSWER 172 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1985:579037 CAPLUS  
 DN 103:579037

TI Thermal expansion behavior of various aromatic polyimides  
 AU Numata, Shun'ichi; Oohara, Shuichi; Imaizumi, Jun'ichi; Kinjo, Noriyuki  
 CS Hitachi Res. Lab., Hitachi Ltd., Hitachi, 319-12, Japan  
 SO Polymer Journal (Tokyo, Japan) (1985), 17(8), 981-3  
 CODEN: POLJBB; ISSN: 0032-3896

DT Journal

LA English

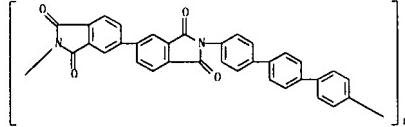
AB The thermal expansions of p-phenylenediamine-pyromellitic dianhydride copolymer [2503R-82-8], 3,3',4,4'-biphenyltetracarboxylic dianhydride-p-benzoquinonetetracarboxylic dianhydride-4,4'-diaminodiphenylsulfone copolymer [55930-10-4], and 3,3',4,4'-benzophenonetetracarboxylic dianhydride-4,4'-diaminodiphenylsulfone copolymer [26873-90-5] were investigated. They were dependent whether curing shrinkage was unhindered (free cure), or prevented by fixing the film on an iron frame in one direction (unifix cure), or in 2 directions at right angles (bifix cure).

IT 26402-03-9

RL: PRP (Properties)  
 (thermal expansion coefficient of)

RN 26402-03-9 CAPLUS

CN Poly[(1,1':3,3'-tetrahydro-1',1',3,3'-tetraoxo[5,5'-bi-2H-isoindole]-2,2'-diyl)[1,1':4',1''-terphenyl]-4,4'-diyl] (9Cl) (CA INDEX NAME)



L5 ANSWER 173 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1985:579752 CAPLUS  
 DN 103:579752

TI Thermal decomposition of various aromatic polyimides under isothermal conditions

AU Numata, Shun'ichi; Kinjo, Noriyuki  
 CS Hitachi Res. Lab., Hitachi Ltd., Hitachi, 319-12, Japan  
 SO Kobunshi Ronbunshu (1985), 42(7), 443-51  
 CODEN: KRRRA3; ISSN: 0386-2186

DT Journal

LA Japanese

AB The rates and activation energies for the decomposition of various polyimides in N and air are determined under isothermal conditions. Decomposition rates in N are smaller than those in air, and activation energies for decomposition in N are larger than those in air. In the case of decomposition in N, a polyimide with a higher decomposition temperature shows a larger activation energy. A linear relation exists between the bond dissociation energy for the bond with the smallest dissociation energy in the polyimide chain and the decomposition temperature

in

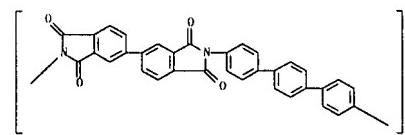
N and air for various aromatic polyimides. In N the decomposition activation energies are close to the smallest value in the bond dissociation energies, and the activation energy linearly increases with the bond dissociation energy, indicating that the rate-determining process of decomposition in N is the radical cleavage at the bond which has the smallest bond dissociation energy. In the case of decomposition in air, however, no relation exists between them, indicating that the rate-determining process is not radical cleavage.

IT 26402-03-9 83932-46-1

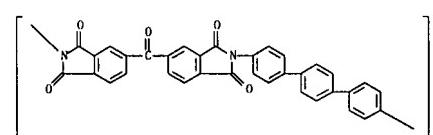
RL: RCT (Reactant); RACT (Reactant or reagent)  
 (thermal decomposition of, in air and nitrogen, kinetics and mechanism of)

RN 26402-03-9 CAPLUS

CN Poly[(1,1':3,3'-tetrahydro-1',1',3,3'-tetraoxo[5,5'-bi-2H-isoindole]-2,2'-diyl)[1,1':4',1''-terphenyl]-4,4'-diyl] (9Cl) (CA INDEX NAME)



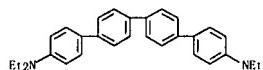
RN 83932-46-1 CAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole)-2,5-diyl]carbonyl[(1,3-dihydro-1,3-dioxo-2H-isoindole)-5,2-diyl][1,1':4',1''-terphenyl]-4,4'-diyl] (9Cl) (CA INDEX NAME)



L5 ANSWER 173 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

L5 ANSWER 174 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1985-573732 CAPLUS  
 DN 102-173732  
 TI Evaluation of laser dye mutagenicity using the Ames/Salmonella microsome test  
 AU Wubbels, Barbara J. Y.; Felton, James S.  
 CS Biomed. Sci. Div., Lawrence Livermore Natl. Lab., Livermore, CA, 94550,  
 USA  
 SO Environmental Mutagenesis (1985), 7(4), 511-22  
 CODEN: ENMUDM; ISSN: 0192-2521  
 DT Journal  
 LA English  
 AB Twenty-five laser dyes and 4 analogs were tested for mutagenicity in the Ames/Salmonella test. Seven dyes and 2 analogs gave pos. mutagenic responses with bacterial strains TA1538 and TA98. Of 2 widely used families of laser dyes (coumarins and rhodamines), 4 coumarin samples, but none of the rhodamine samples, were mutagenic. All mutagenic compounds require enzyme activation for pos. response except 2 terphenyl analogs, which are mutagenic with or without activation. Using HPLC, it was determined that 5 of the dyes contained mutagenic impurities. These impurities themselves may not be the mutagenic agents in all cases (as with Nile Blue [51340-16-2]) but may contain impurities that are mutagenic. One dye, indicyanomethylene (DCM) [51325-91-8] (295% pure), was mutagenic at doses <0.5 µg/plate on strains TA1538 and TA98. DCM also induced reversions in strains TA96, TA97, TA100, TA102, and TA104, although less efficiently. The mutagenic components of these dye mixts., whether it is the dye or a contaminant, presents a possible hazard to those handling them. Therefore, practices and procedures for the safe handling of specific dyes should be reviewed in light of these findings.

IT 53693-68-8  
 RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)  
 (mutagenicity of, in *Salmonella typhimurium* strains with activation by  
 S9 fraction)  
 RN 53693-68-8, CAPLUS  
 CN [{1,1':4",1":4"}-Quaterphenyl]-4,4'''-diamine, N,N,N',N'-tetraethyl-  
 (9CI) (CA INDEX NAME)



L5 ANSWER 175 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1985-221649 CAPLUS

DN 102-221649

TI Low thermal expansion resin material and composite shaped article  
 IN Numata, Shunichi; Fujisaki, Koji; Kinjo, Noriyuki; Imaizumi, Junichi;  
 Mikami, YoshikatsuPA Hitachi, Ltd., Japan; Hitachi Chemical Co., Ltd.  
 SO Eur. Pat. Appl., 49 pp.  
 CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

| PATENT NO. | KIND | DATE     | APPLICATION NO. | DATE        |
|------------|------|----------|-----------------|-------------|
| EP 133533  | A2   | 19850227 | EP 1984-109054  | 19840731 <- |
| EP 133533  | A3   | 19880831 |                 |             |
| EP 133533  | B1   | 19930421 |                 |             |

R P, DE, FR, GB, NL,  
 JP 60023537 A 19850220 JP 1983-139438 19830901 <-  
 JP 60044338 A 19850309 JP 1983-152351 19830819 <-  
 US 4690899 A 19870901 US 1984-636736 19840801 <-  
 US 4792476 A 19881220 US 1987-77390 19870724 <-

PRA1 JP 1983-139438 A 19830801  
 JP 1983-152351 A 19830819  
 US 1984-636736 A3 19840801

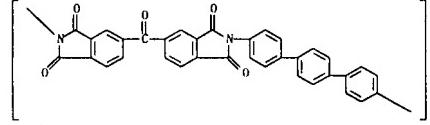
AB Polyimides are prepared which have as a structural unit  $\pm$  aromatic ring which can rotate around its mol. axis but has no flexibility in another direction. The polyimides are oriented in  $\pm$  direction, have a low coefficient of thermal expansion, and are especially useful as flexible substrates for printed circuits and as flexible insulators for wiring, etc., in the manufacture of integrated circuits. The polyimides are prepared by the reaction of a monomer such as p-phenylenediamine (I), 4,4'''-diaminoterphenyl, o-phenylenediamine, or 2,5-diaminotoluene with a monomer such as pyromellitic dianhydride, or 3,3',4,4'-biphenyl[terephthalic anhydride] (II). Thus, 109.7 g II was added to 850 g N-methyl-2-pyrrolidinone containing 40.31 g I to prepare a polyamic acid varnish which was coated on glass and dried at 80-100°. The dry film was separated from the glass, attached to a frame, cured at 200-400°, removed from the frame, and heated at 400° to remove residual strain. The film had linear expansion coefficient 0.9 ± 10-5/K.

IT 83932-46-1P

RL: PREP (Preparation)  
 (preparation of, with low coefficient of thermal expansion)

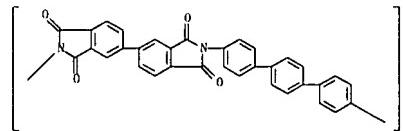
RN 83932-46-1 CAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)carbonyl(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)[1,1':4",1"-terphenyl]-4,4"-diyl] (9CI) (CA INDEX NAME)



IT 26402-03-9P  
 RL: PREP (Preparation)  
 (preparation of, with low thermal expansion)  
 RN 26402-03-9 CAPLUS

L5 ANSWER 175 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 CN Poly[(1,1':4",1":4")-Quaterphenyl]-4,4'''-diamine, N,N,N',N'-tetraethyl-  
 (9CI) (CA INDEX NAME)



L5 ANSWER 176 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1985:158233 CAPLUS

DN 102-158233

TI Liquid crystal guest-host systems  
IN Scheuble, Bernhard; Weber, Georg; Pohl, Ludwig  
PA Merck Patent G.m.b.H., Fed. Rep. Ger.

SO Ger. Offen., 31 pp.

CODEN: GWXXRX

DT Patent

LA German

FAN, CNT 1

| PATENT NO.                         | KIND | DATE     | APPLICATION NO. | DATE         |
|------------------------------------|------|----------|-----------------|--------------|
| DE 3307238                         | A1   | 19840906 | DE 1983-3307238 | 19830302 <-- |
| EP 118061                          | A2   | 19840912 | EP 1984-101515  | 19840214 <-- |
| EP 118061                          | A3   | 19860312 |                 |              |
| EP 118061                          | BI   | 19860414 |                 |              |
| R = AT, CH, DE, FR, GB, IT, LI, NL |      |          |                 |              |
| AT 37195                           | T    | 19880315 | AT 1984-101515  | 19840214 <-- |
| DD 223726                          | A5   | 19850619 | DD 1984-260424  | 19840229 <-- |
| JP 59166580                        | A    | 19840919 | JP 1984-38924   | 19840302 <-- |
| US 435160                          | A    | 19900619 | US 1988-246590  | 19880919 <-- |

PRAI DE 1983-3307238

EP 1984-101515

US 1984-585475

US 1984-585475

OS MARPAT 102:158233

AB Liquid crystal guest-host systems are described which contain  $\geq 2$  phenoxy dyes,  $\geq 1$  of which has an absorption maximum above 665 nm and the dye concentration is so controlled that an electrooptical display device containing this system shows a color range  $\Delta E$  up to the achromatic point of less than 5 units. These systems have a low viscosity and are especially useful for outdoor use. Thus, a liquid crystal mixture containing 4-(trans-4-propylcyclohexyl)benzonitrile 18, 4-(trans-4-propylcyclohexyl)benzonitrile 25, 4-(trans-4-propylcyclohexyl)benzonitrile 14, 4-(trans-4-propylcyclohexyl)benzonitrile 15, 4-(trans-4-pentylcyclohexyl)-4'-(trans-4-propylcyclohexyl)biphenyl 7, 4-(trans-4-pentylcyclohexyl)-4'-(trans-4-propylcyclohexyl)biphenyl 6, 4-(trans-4-propylcyclohexyl)phenyl trans-4-butylcyclohexylcarboxylate 8, ICI Anthraquinone Dye Red 77 2.2, ICI Anthraquinone Dye Yellow 99 2.2, ICI Anthraquinone Dye Blue 26 0.6, and a mixture of naphthoquinone dyes prepared by reacting 4,8-diamino-1,5-naphthoquinone with equimolar amounts of 4-butoxyaniline, 4-pentyloxyaniline, 4-hexyloxyaniline, and 4-heptyloxyaniline 1.4% was prepared and placed in an electrooptical display cell. This guest-host system showed in the cell (1  $\mu$ m layer thickness) under artificial light a color range  $\Delta E$  up to up to the achromatic point of 0.2 and under daylight a value of 0.2.

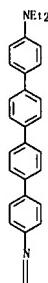
IT 95690-46-5

RL: USES (Uses)

(liquid crystal compns. containing guest-host, for electrooptical display devices)

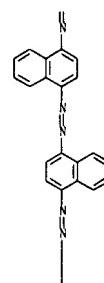
RN 95690-46-5 CAPLUS

CN [1,1'-4'',1'',4''-Quaterphenyl]-4-amine, 4''-[[4-[4-(4-butylphenyl)azo]-1-naphthalenyl]azo]-1-naphthalenyl-N,N-diethyl- (9CI) (CA INDEX NAME)



L5 ANSWER 176 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

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L5 ANSWER 176 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 3-A



L5 ANSWER 177 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1983:5217 CAPLUS

DN 98-5217

TI Potting compositions

PA Hitachi, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN, CNT 1

| PATENT NO.       | KIND | DATE     | APPLICATION NO. | DATE         |
|------------------|------|----------|-----------------|--------------|
| PI JP 57114258   | A    | 19820716 | JP 1981-346     | 19810107 <-- |
| PRAI JP 1981-346 |      | 19810107 |                 |              |
| GI               |      |          |                 |              |

AB Polyimides (I; R = aliphatic or aromatic group) were used as moisture barriers in potting. For example, a 10% varnish from 0.1 mol 4,4'-diaminotetraphenyl and 0.1 mol pyromellitic dianhydride (II) in N-methyl-2-pyrrolidone was baked on MOS-type 40-pin LSIs at 100° for 1 h and 200° for 5 h to form 4-μ barriers. The coated LSIs were potted by transfer molding with an epoxy resin and tested at 80° and 90% relative humidity for 1000 h. The failure ratio was 0/925 samples, compared with 14/50 for a control using 4,4'-diaminodiphenyl ether-II varnish.

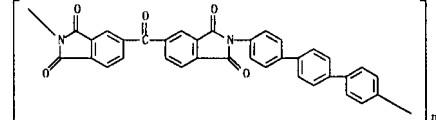
IT 83932-46-1

RL: USES (Uses)

(moisture barriers, in epoxy potting of electronic components)

RN 83932-46-1 CAPLUS

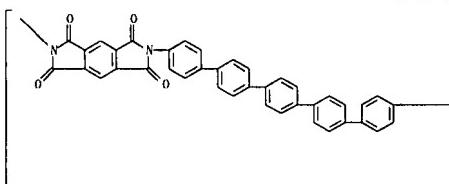
CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diy)carbonyl(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diy)[1,1'-terphenyl]-4,4'-diyl] (9CI) (CA INDEX NAME)



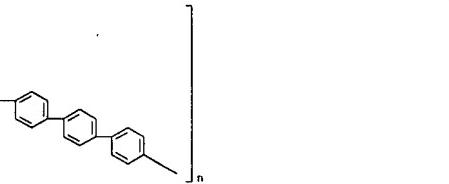


L5 ANSWER 179 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
CN Poly[5-(5-dihydro-1,3,5,7-tetraoxobenzol[1,2-c:4,5-c']dipyrrole-2,6(1H,3H)-diyl)][1,1'-4,1'-1,1'-4,1'-1,1'-4,1'-1,1'-4,1'-1,1'-4,1'-1,1'-4,1'-1,1'-4,1'-1,1'-octiphenyl]-4,4'-diyl] (9CI) (CA INDEX NAME)

PAGE 1-A

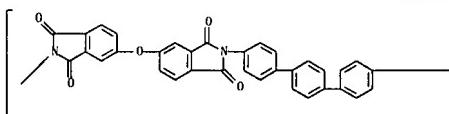


PAGE 1-B



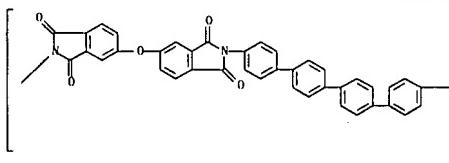
RN 77496-69-6 CAPIUS  
CN Poly[ (1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diy)oxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)[1,1':4',1'':4'',1'''-quaterphenyl]-4,4'''-diyl] (9CI) (CA INDEX NAME)

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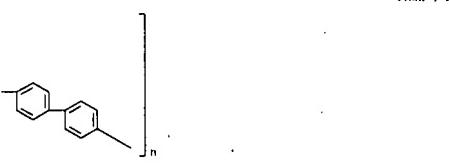


L5 ANSWER 179 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
PAGE 1-A

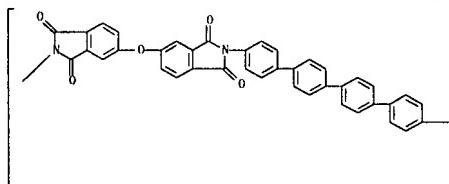
PAGE 1-A



PAGE 1-B

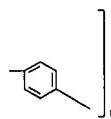


PAGE 1-A

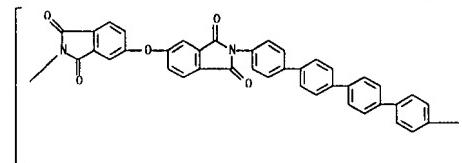


L5 ANSWER 179 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

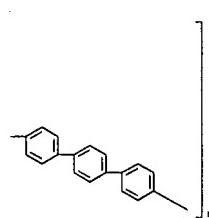
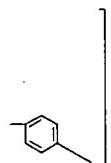
PAGE 1-B



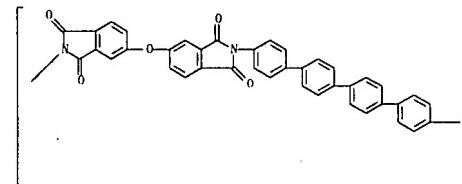
PAGE 1-A



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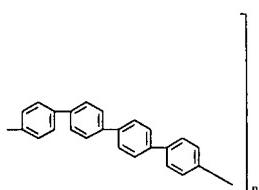


PAGE I-A



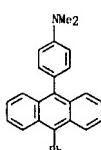
L5 ANSWER 179 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-B

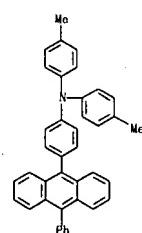


L5 ANSWER 180 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1980-558114 CAPLUS

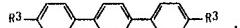
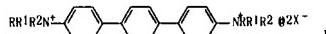
DN 93-158114  
TI Formulation of intramolecular exciplexes in electrogenerated chemiluminescence. 2  
AU Kawai, Mikio; Itoya, Kingo; Toshima, Shinobu  
CS Fac. Eng., Tohoku Univ., Sendai, 980, Japan  
SO Journal of Physical Chemistry (1980), 84(19), 2368-74  
CODEN: JPCHAZ; ISSN: 0022-3654DT Journal  
LA English  
AB Electrogenerated chemiluminescence (ecl) of intramol. donor-acceptor compds. was examined in acetonitrile and acetonitrile-benzene mixts. Anthracene, 10-phenylanthracene, and pyrene rings were directly bonded to N,N-dimethylaniline, N,N-di-p-tolylaniline, and N,N-di-p-anisylaniline. High values of ecl yields were obtained in this series of compds. The time dependence of ecl emission intensity of N,N-di-p-anisylaniline derivs. revealed that the reaction mechanism was S route (direct population of the excited states of intramol. exciplexes).  
IT 71901-29-6 74296-02-9 74296-03-0  
RL PRP (Properties)  
(electrochemiluminescence of, in acetonitrile and acetonitrile-benzene mixts.)RN 71901-29-6 CAPLUS  
CN Benzenamine, N,N-dimethyl-4-(10-phenyl-9-anthracenyl)- (9CI) (CA INDEX NAME)RN 74296-02-9 CAPLUS  
CN Benzenamine, N,N-bis(4-methylphenyl)-4-(10-phenyl-9-anthracenyl)- (9CI) (CA INDEX NAME)

L5 ANSWER 180 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

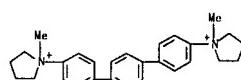
RN 74296-03-0 CAPLUS  
CN Benzenamine, N,N-bis(4-methoxyphenyl)-4-(10-phenyl-9-anthracenyl)- (9CI) (CA INDEX NAME)

L5 ANSWER 181 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1980-471259 CAPLUS

DN 93-71259  
TI p,p'-Bis-quaternary ammonium salts of p-terphenyl  
IN Khromov-Borisov, Nikolai V.; Torf, Samuil F.; Cherepanova, Valentina P.; Danilov, Anatoly F.  
PA Institute of Experimental Medicine, Academy of Medical Sciences, U.S.S.R., USSR  
SD Can., 26 pp.  
CODEN: CAXXA4DT Patent  
LA English  
FAN, CNT 1  
PATENT NO. KIND DATE APPLICATION NO. DATE  
P1 CA 1072964 A1 19800304 CA 1976-252143 19760510 <--  
PRAJ CA 1976-252143 A 19760510  
GIAB Ammonium salts of p-terphenyl (I; R1 = R2 = alkyl; R1R2 = alkylene; X = PhSO3, halide) were prepared. Thus, reduction of II (R3 = N02) by Raney Ni followed by alkylation with EtI gave I (R3 = NEt2; I). Treating I with PhSO3Et at 120° for 1 h gave I' (R1 = R2 = Et, X = PhSO3; IV) which was treated with NaBr to give I'' (X = Br; V). IV and V were 6-8 times more effective as neuromuscular blocking agents than d-tubocurarine.  
IT 65449-04-9P 65449-06-IP  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and muscle relaxant and neuromuscular blocking activity of)RN 65449-04-9 CAPLUS  
CN Pyrrolidinium, 1,1'-(1,1':4',1''-terphenyl)-4,4''-diylbis[1-methyl-, dibenzenesulfonato (9CI) (CA INDEX NAME)

CM 1

CRN 65449-03-8  
CN 65449-03-8  
CMF C28 H34 N2

CM 2

CRN 3198-32-1  
CN 3198-32-1  
CMF C6 H5 O3 S

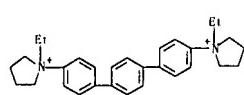
L5 ANSWER 181 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 65449-06-1 CAPLUS  
CN Pyrrolidinium, 1,1'-(1,1':4',1''-terphenyl)-4,4''-diylbis[1-ethyl-, dibenzenesulfonate (9Cl)] (CA INDEX NAME)

CM 1

CRN 65449-05-0  
CMF C30 H38 N2



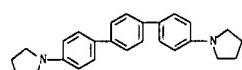
CM 2

CRN 3198-32-1  
CMF C6 H5 O3 S



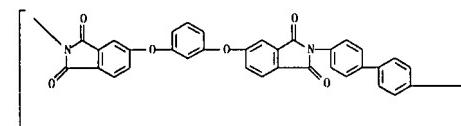
IT 65449-09-4P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and quaternization of)

RN 65449-09-4 CAPLUS  
CN Pyrrolidine, 1,1'-(1,1':4',1''-terphenyl)-4,4''-diylbis- (9Cl) (CA INDEX NAME)

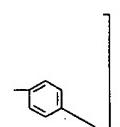


L5 ANSWER 182 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

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L5 ANSWER 182 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1980:448413 CAPLUS

DN 52-48413

TI Method for obtaining polyimide fibers

IN Kotov, M. M.; Florinsky, F. S.; Frenkel, S. Ya.; Korzhavin, L. N.

PA Institute of High-Molecular-Weight Compounds, Academy of Sciences,

U.S.S.R., USSR

SO Brit. UK Pat. Appl., 7 pp.

CODEN: BAXXDU

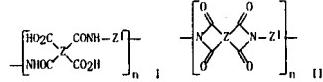
DT Patent

LA English

FAN, CNT 1

| PATENT NO.         | KIND | DATE     | APPLICATION NO. | DATE         |
|--------------------|------|----------|-----------------|--------------|
| PI GB 2025311      | A    | 19800123 | GB 1978-30083   | 19780717 <-- |
| GB 2025311         | B    | 19820825 |                 |              |
| PRAI GB 1978-30083 | A    | 19780717 |                 |              |

GI



AB Polyimide fibers resistant to heat, frost, burning, UV, and corrosive chems. are manufactured by solution spinning of the corresponding polyamic acid (Z = residue of aromatic tetracarboxylic acid or dianhydride; Z1 = residue of aromatic diamine; n = 2-80), drawing the as-spun fiber to a ratio of 1.3-4 at 20-70°, and heating the drawn fiber at 5-100° above their Tg to effect dehydrocyclization to the polyimide II. Thus, a 13.7% DMF solution of the polyamic acid [51206-15-7] prepared from 2,6-diaminofluorene and pyromellitic anhydride was extruded through a 0.54-mm-diameter spinneret into an ethylene glycol precipitation bath at 20°. The spun fiber was drawn to a ratio 2.5 in water at 20° and vacuum dried at 50° and 110-50 mm Hg. The dried fiber was heated at 440° under N to effect cyclization to the corresponding polyimide [38380-34-9]. The polyimide fiber had tenacities 110, 140, and 30 gF/tex, break elongations 1.6, 1.3, and 0.7%, and elasticity modulus 1300, 16,000, and 6200 Kg/mm<sup>2</sup> at 20, -196, and 450°, resp.

IT 73342-35-5P

RL: PREP (Preparation)  
(fibers, heat-resistant, manufacture of)

RN 73342-35-5 CAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)oxy-1,3-phenyleneoxy(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)[1,1':4',1''-terphenyl]-4,4'-diyl] (9Cl) (CA INDEX NAME)

L5 ANSWER 183 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1980:148407 CAPLUS

DN 92-148407

TI Polyimide yarns

IN Kotov, M. M.; Florinskii, F. S.; Frenkel, S. Ya.; Korzhavin, L. N.

Pushkina, T. P.; Prokopchuk, N. R.

PA Institute of High-Molecular-Weight Compounds, Academy of Sciences,

U.S.S.R., USSR

SO Ger. Offen., 30 pp.

CODEN: GWXXBZ

DT Patent

LA German

FAN, CNT 1

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE         |
|---------------|------|----------|-----------------|--------------|
| PI DE 2829811 | A1   | 19800124 | DE 1978-2829811 | 19780706 <-- |
| JP 57037687   | B    | 19820811 | JP 1978-67217   | 19780719 <-- |
| JP 55016925   | A    | 19800206 |                 |              |

PRAI DE 1978-2829811 A 19780706

AB Polyimide fibers with good mech. properties, especially modulus of elasticity and strength, are prepared by controlling the stretching and heat treatment conditions and using polyamide acids prepared from aromatic tetracarboxylic acid anhydrides and aromatic diamines. Thus, a DMF solution of p-phenylenediamine was treated with an equimolar amount of 3,3',4,4'-diphenyl oxide tetracarboxylic acid dianhydride to give yellow solution of polyamide acid containing 17% solids and having intrinsic viscosity 1.8 dL/g. After filtration and deaeration, the solution was extruded through a 40 hole nozzle with 0.1-mm-diameter orifices into a 90:10 EtOH-water bath at 20°. The fibers were stretched 1.3-fold in water at 50°, vacuum dried at 50° and 100-50 torr, and dehydrocyclized in N at 410°. The polyimide fibers obtained had tensile strength 140 g/tex, breaking elongation 1.6%, and modulus of elasticity 10,800 kg/mm<sup>2</sup>.

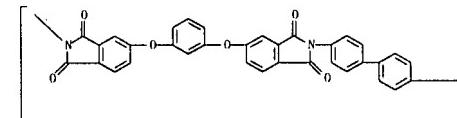
IT 73342-35-5

RL: USES (Uses)  
(fiber, with increased modulus of elasticity and tensile strength)

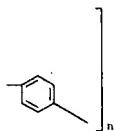
RN 73342-35-5 CAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)oxy-1,3-phenyleneoxy(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)[1,1':4',1''-terphenyl]-4,4'-diyl] (9Cl) (CA INDEX NAME)

PAGE 1-A



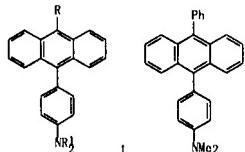
L5 ANSWER 183 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 PAGE 1-B



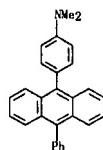
L5 ANSWER 184 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1979:502278 CAPLUS

DN 91:202278  
 TI Electrochemiluminescent display devices  
 IN Yamazaki, Shoei  
 PA Daini Seikosha Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 2 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese  
 FAN, CNT 1  
 PATENT NO. KIND DATE APPLICATION NO. DATE  
 PI JP 54071090 A 19790607 JP 1977-137574 19771116 <--  
 PRAI JP 1977-137574 A 19771116  
 GI



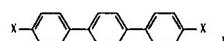
AB Electrochemiluminescent display devices contain organic electrochemiluminescent substances of the general formula I (R, RI = alky, aryl). Thus, an electrolyte solution containing II 10-3 and [Bu4N]ClO4 0.1M was used to give an electrochemiluminescent display device which gave a bright yellowish green emission and had good durability.  
 IT 71901-29-6  
 RL: USES (Uses)  
 (electrochemiluminescent display devices containing)  
 RN 71901-29-6 CAPLUS  
 CN Benzenamine, N,N-dimethyl-4-(10-phenyl-9-anthracenyl)- (9CI) (CA INDEX NAME)



L5 ANSWER 184 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

L5 ANSWER 184 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1979:574926 CAPLUS  
 DN 91:174926

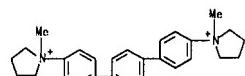
TI Synthesis and curarlike activity of p,p''-bis-quaternary ammonium derivatives of p-terphenyl  
 AU Khromov-Borisov, N. V.; Torf, S. F.; Cherepanova, V. P.; Danilov, A. F.  
 CS Nauchno-Issled. Inst. Eksp. Med., Leningrad, USSR  
 SO Khimiko-Farmatsevticheskii Zhurnal (1979), 13(7), 34-9  
 CODEN: KHFZAN; ISSN: 0023-1134  
 DT Journal  
 LA Russian  
 OS CASREACT 91:174926  
 GI



AB p,p''-Dinitro-p-terphenyl (I; X = NO2) in HOCH2Cl2OH was reduced with N2H4, H2O in the presence of Raney Ni at 165-70° to give a quent. yield of I (X = NH2), which reacted with R1 (R = Et, Pr) and with Br(CH2)nBr (n = 4, 5) to give the corresponding I (X = NEt2, NPr2, pyrrolidino, piperidino). These diamines were quaternized with PhSO3R1 (R1 = Me, Et) to give 70-80% PhSO3- (X = Et2NMe+, Et3N+, Pr2NMe+, N-methyl- and N-ethylpyrrolidinio and -piperidinio), which are depolarizing myorelaxants comparable to d-tubocurarin in activity.  
 IT 65449-04-9B 65449-06-1P 71666-27-8P  
 71666-29-0P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and curarin-like activity of)  
 RN 65449-04-9 CAPLUS  
 CN Pyrrolidinium 1,1''-[1,1''-4',4''-terphenyl]-4,4''-diylbis[1-methyl-, dibenzenesulfonate (9CI) (CA INDEX NAME)

CN 1

CRN 65449-03-8  
 CMF C28 H34 N2



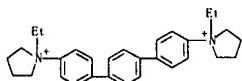
CN 2

CRN 3198-32-1  
 CMF C6 H5 O3 S



L5 ANSWER 185 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 RN 65449-06-1 CAPLUS  
 CN Pyrrolidinium, 1,1'-(1,1':4',1''-terphenyl)-4,4''-diylbis[1-ethyl]-, dibenzenesulfonate (9CI) (CA INDEX NAME)

CM 1

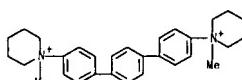
CRN 65449-05-0  
CMF C30 H38 N2

CM 2

CRN 3198-32-1  
CMF C6 H5 O3 S

RN 71666-27-8 CAPLUS  
 CN Piperidinium, 1,1'-(1,1':4',1''-terphenyl)-4,4''-diylbis[1-methyl]-, dibenzenesulfonate (9CI) (CA INDEX NAME)

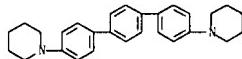
CM 1

CRN 71666-26-7  
CMF C30 H38 N2

CM 2

CRN 3198-32-1  
CMF C6 H5 O3 S

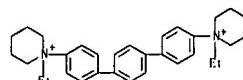
L5 ANSWER 185 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L5 ANSWER 185 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

RN 71666-29-0 CAPLUS  
 CN Piperidinium, 1,1'-(1,1':4',1''-terphenyl)-4,4''-diylbis[1-ethyl]-, dibenzenesulfonate (9CI) (CA INDEX NAME)

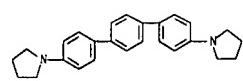
CM 1

CRN 71666-28-9  
CMF C32 H42 N2

CM 2

CRN 3198-32-1  
CMF C6 H5 O3 S

IT 65449-09-4P 71666-25-6P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation): RACT (Reactant or reagent)  
 (preparation and quaternization of, with alkyl benzenesulfonates)  
 RN 65449-09-4 CAPLUS  
 CN Pyrrolidine, 1,1'-(1,1':4',1''-terphenyl)-4,4''-diylbis- (9CI) (CA INDEX NAME)



RN 71666-25-6 CAPLUS  
 CN Piperidine, 1,1'-(1,1':4',1''-terphenyl)-4,4''-diylbis- (9CI) (CA INDEX NAME)

L5 ANSWER 185 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1979-508523 CAPLUS  
 DN 91:108523  
 TI Thermal and oxidative thermal degradation of rigid-chain polyimides  
 AU Sazanov, Yu. N.; Florinskii, F. S.; Fedorova, G. N.; Koton, M. M.  
 CS Inst. Vysokomol. Soedin., Leningrad, USSR  
 SO Vysokomolekulyarnye Soedineniya, Seriya B: Kratkie Soobshcheniya (1979), 21(6), 463-7  
 CODEN: VYSAU1; ISSN: 0507-5483

DT Journal

LA Russian

AB The chemical nature of the acid and diamine components of rigid-chain polyimides affects their thermal and oxidative thermal degradation as was confirmed by DTA and thermogravimetric anal. Degradation of films and fibers from polyimides based on pyromellitic dianhydride, biphenol A, oxophenanthrene, phthalic anhydride, and various diamines was obtained by DTA and thermogravimetric anal. Thermal stability of the polyimides increased with increasing number of phenylene units in the polymer chain. Polyimides based on diamines of fluorene and phenoxanthin had a high oxidative thermal stability. The high thermal stability and deformation-strength properties of fluorene-containing polyimides was attributed to their high crystallinity and increased intermol. interaction of cyclic groups. The higher temperature of oxidative thermal degradation of fibers compared to films was attributed to the effects of uniaxial orientation.

IT 55919-26-1

RL: PRP (Properties)

(oxidative thermal and thermal degradation of)

RN 55919-26-1 CAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isooindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isooindole-5,2-diyl)[1,1':4',1''-terphenyl]-4,4''-diyl] (9CI) (CA INDEX NAME)

IT 26402-03-9

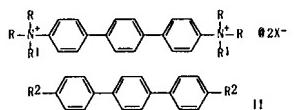
RL: PRP (Properties)

(thermal and oxidative thermal degradation of)

RN 26402-03-9 CAPLUS  
 CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isooindole]-2,2-diyl)[1,1':4',1''-terphenyl]-4,4''-diyl] (9CI) (CA INDEX NAME)

L5 ANSWER 186 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

L5 ANSWER 187 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1978-1442749 CAPLUS  
 DN 89-42749  
 TI N,N'-Bisquaternary ammonium salts of p-terphenylenediamine  
 PA Institute of Experimental Medicine, Academy of Medical Sciences, U.S.S.R., USSR  
 SO Jpn. Kokai Tokkyo Koho, 14 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN, CNT 1  
 PATENT NO. KIND DATE APPLICATION NO. DATE  
 PI JP 52142048 A 19771126 JP 1976-59208 19760524 --  
 JP 55042064 B 19801028  
 PRAI JP 1976-59208 A 19760524  
 GI

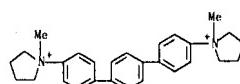


AB Bisquaternary ammonium salts [I; R, R1 = alkyl, RR = (CH2)4; X = PhSO3], which were obtained by quaternization of the diamines [II; R2 = NH2], which were effective muscle relaxants. Thus, 10 g I (R2 = NO2) in HOCH2CH2OH was reduced with Raney Ni to give quant. II (R2 = NH2), which (1.7 g) was treated with 5 mL MeI and 2.2 g CaCO3 in HOCH2CH2OH to give 2 g mixture of I (R = R1 = Me, X = iodo) and II (R2 = NH2), which was treated with PhSO3Me at 100-20° to give 80% I (R = R1 = Me, X = PhSO3), which showed a head-drop dose of 0.25 ± 0.05 MMK (sic)/kg in rabbits, vs. 0.18 ± 0.06 MMK (sic)/kg from d-tubocurarine.

IT 65449-04-0P 65449-06-IP

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and muscle relaxant activity of)RN 65449-04-9 CAPLUS  
CN Pyrrolidinium, 1,1'-(1,1':4',1''-terphenyl)-4,4''-diylbis[1-methyl-dibenzenesulfonate (9CI) (CA INDEX NAME)

CM 1

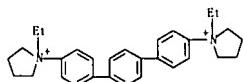
CRN 65449-03-8  
CMF C28 H34 N2

L5 ANSWER 187 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

CM 2

CRN 3198-32-1  
CMF C6 H5 O3 SRN 65449-06-1 CAPLUS  
CN Pyrrolidinium, 1,1'-(1,1':4',1''-terphenyl)-4,4''-diylbis[1-ethyl-dibenzenesulfonate (9CI) (CA INDEX NAME)

CM 1

CRN 65449-05-0  
CMF C30 H38 N2

CM 2

CRN 3198-32-1  
CMF C6 H5 O3 S

L5 ANSWER 188 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1978-62132 CAPLUS  
 DN 88-62132  
 TI p,p'-Bis(quaternary-p-terphenylammonium) salts  
 IN Khrusov-Borisov, N. V.; Torf, S. F.; Cherepanova, V. P.; Danilov, A. F.  
 PA Institute of Experimental Medicine, Academy of Medical Sciences, U.S.S.R., USSR

SO Ger. Offen. 28 pp.

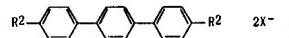
CODEN: GWXKBX

DT Patent

LA German

FAN, CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE  
 PI DE 2621226 A1 19771117 DE 1976-2621226 19760513 --  
 DE 2621226 C3 19800918  
 PRAI DE 1976-2621226 A 19760513  
 OS MARPAT 88:62132  
 GI

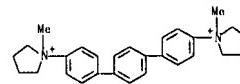


AB The title compds. I [R2 = N+R2R1, 1-R1-substituted-pyrrolidinio (R and R1 = alkyl), especially low-mol. X = PhSO3] had been claimed earlier, e.g. p-(4-02NC6H4)C6H4 in HOCH2CH2OH was reduced with NaBH4 and Raney Ni (agent, y) to form the formed p-(4-02NC6H4)2C6H4 alkylated with MeI in HOCH2CH2OH and the mixture of p-[4-(Me-2NC6H4)2C6H4 and I (R2 = N+Me3, X = iodo) thus obtained treated with PhSO3Me to give 80% I (R2 = N+Me3, X = PhSO3). An addnl. 6 I were prepared I were muscle relaxants at 0.08 ± 0.002 to 1.0 ± 0.2 μmol/kg (cat, blocking dose) and 0.022 ± 0.001 to 0.3 ± 0.06 μmol/kg (rabbit, head drop dose), whereas d-tubocurarine required dosages of 0.5 ± 0.02 and 0.18 ± 0.06, resp.

IT 65449-04-0P 65449-06-IP

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and muscle relaxant activity of)RN 65449-04-9 CAPLUS  
CN Pyrrolidinium, 1,1'-(1,1':4',1''-terphenyl)-4,4''-diylbis[1-methyl-dibenzenesulfonate (9CI) (CA INDEX NAME)

CM 1

CRN 65449-03-8  
CMF C28 H34 N2

CM 2

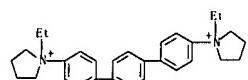
CRN 3198-32-1  
CMF C6 H5 O3 S

## L5 ANSWER 188 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 65449-06-1 CAPLUS  
CN Pyrrolidinium, 1,1'-(1,1':4',1'''-terphenyl)-4,4'''-diylbis(1-ethyl-, dibenzenesulfonate (9Cl) (CA INDEX NAME)

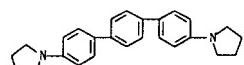
CM 1

CRN 65449-05-0  
CMF C30 H38 N2

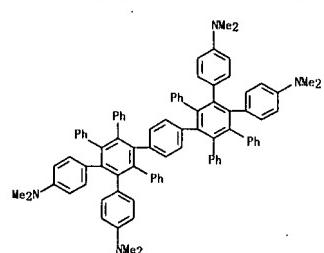
CM 2

CRN 3198-32-1  
CMF C6 H5 O3 S

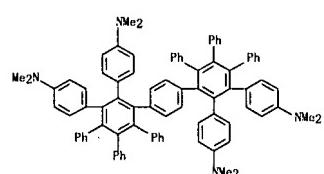
IT 65449-09-4P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and quaternization of, with alkyl benzenesulfonates)  
RN 65449-09-4 CAPLUS  
CN Pyrrolidine, 1,1'-(1,1':4',1'''-terphenyl)-4,4'''-diylbis- (9Cl) (CA INDEX NAME)



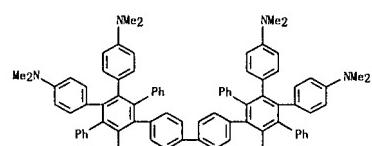
## L5 ANSWER 189 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 62063-76-7 CAPLUS  
CN [1,1':2',1'''-4',1'''-2'''',1'''''-Quinquephenyl]-4,4'''''-diamine, 3',6''-bis[4-(dimethylamino)phenyl]-N,N,N',N'-tetramethyl-3',4',4'',5',5'',6''-hexaphenyl- (9Cl) (CA INDEX NAME)



RN 62063-81-4 CAPLUS  
CN [1,1':3,1'''-4,1'''-4,1'''-4,1'''-3,1'''-Sexiphenyl]-4,4'''''-diamine, 4',5',5'',6''-bis[4-(dimethylamino)phenyl]-N,N,N',N'-tetramethyl-2',2'',4',5',5'',6''-hexaphenyl- (9Cl) (CA INDEX NAME)



RN 62063-86-9 CAPLUS  
CN [1,1':2',1'''-Terphenyl]-4,4'''''-diamine, 4',4'''''-(methylene-di-4,1-phenylene)bis[N,N,N',N'-tetramethyl-3',5',6''-triphenyl- (9Cl) (CA INDEX

## L5 ANSWER 189 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

1977-120899 CAPLUS

TI Synthesis and electronic spectra of substituted bis(hexaphenylbenzenes)  
AU Harvey, James A.; Ogiaruso, Michael A.  
CS Dep. Chem., Virginia Polytech. Inst., Blacksburg, VA, USA  
SO Journal of Chemical and Engineering Data (1977), 22(1), 110-13  
CODEN: JCEAAX; ISSN: 0021-9568

DT Journal

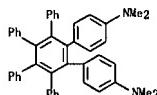
LA English

GI For diagram(s), see printed CA issue.

AB The Diels-Alder reaction of tetracyclones with diphenylacetylenes I ( $R = Me, (Me)_2, Cl, NMe_2, NO_2$ ) gave hexaphenylbenzenes II; UV data were obtained. Caution: there was a CO pressure build-up. Similarly, various bis(tetracyclones) and I gave quinquephenyls III ( $R = Me, (Me)_2, Cl, NMe_2$  when  $R_1 = H$ ;  $R_1 = Me, (Me)_2, Cl, NMe_2, NO_2$  when  $R = H$ ) and seventeen bis(hexaphenylbenzenes) IV ( $Z = direct bond, CH_2, O, S; R = Me, (Me)_2, Cl, NMe_2$ ). UV data were also given for III and IV.

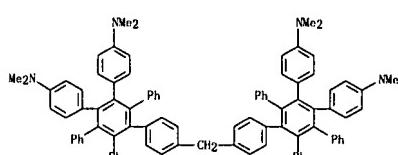
IT 23107-24-9P 62063-71-2P 62063-90-TP  
62063-94-9PRL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and UV of)

RN 23107-24-6 CAPLUS  
CN [1,1':2',1'''-Terphenyl]-4,4'''''-diamine, N,N,N',N'-tetramethyl-3',4',5',6''-tetraphenyl- (9Cl) (CA INDEX NAME)

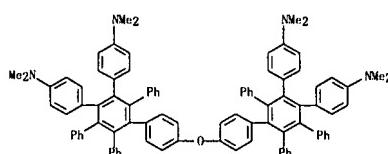


RN 62063-71-2 CAPLUS  
CN [1,1':2',1'''-4',1'''-3'',1'''''-Quinquephenyl]-4,4'''''-diamine, 4',6''-bis[4-(dimethylamino)phenyl]-N,N,N',N'-tetramethyl-2',2'',4',5',5'',6''-hexaphenyl- (9Cl) (CA INDEX NAME)

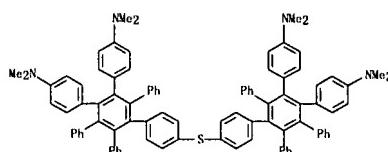
## L5 ANSWER 189 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 62063-76-7 CAPLUS  
CN [1,1':2',1'''-Terphenyl]-4,4'''''-diamine, 4',4'''''-(oxydi-4,1-phenylene)bis[N,N,N',N'-tetramethyl-3',5',6''-triphenyl- (9Cl) (CA INDEX NAME)



RN 62063-81-4 CAPLUS  
CN [1,1':3,1'''-4,1'''-4,1'''-4,1'''-3,1'''-Sexiphenyl]-4,4'''''-diamine, 4',5',5'',6''-bis[4-(dimethylamino)phenyl]-N,N,N',N'-tetramethyl-2',2'',4',5',5'',6''-hexaphenyl- (9Cl) (CA INDEX NAME)

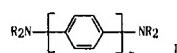


RN 62063-86-9 CAPLUS  
CN [1,1':2',1'''-Terphenyl]-4,4'''''-diamine, 4',4'''''-(methylene-di-4,1-phenylene)bis[N,N,N',N'-tetramethyl-3',5',6''-triphenyl- (9Cl) (CA INDEX

L5 ANSWER 191 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1976:137229 CAPLUS  
 DN 94:137229

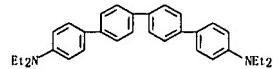
TI Lasing dye  
 IN Hammond, Peter R.  
 PA United States Dept. of the Navy, USA  
 SO U. S. Pat. Appl., 10 pp. Avail. NTIS  
 CODEN: XAXXAY  
 DT Patent  
 LA English  
 FAN, CNT 1

| PATENT NO.         | KIND | DATE     | APPLICATION NO. | DATE        |
|--------------------|------|----------|-----------------|-------------|
| PI US 572590       | A0   | 19750428 | US 1975-572590  | 19750428 -- |
| PRI US 1975-572590 |      | 19750428 |                 |             |
| G1                 |      |          |                 |             |



AB Polyphenylenes (I, R = H, Et, n = 3, 4), lasing in the transmission region of sea water, were prepared by nitrating p-terphenyl [92-94-4] or p-quaterphenyl [135-70-6] in HNO3 with fuming HNO3, refluxing the dinitro derivative with SnCl2, HCl, and HOAc, and forming the tetraethyl derivative by treatment of I (R = H) with triethyl phosphate.

IT 53693-68-8  
 RL: USES (Uses)  
 (dye, for lasing in transmission region of sea water)  
 RN 53693-68-8 CAPLUS  
 CN [1,1':4",1'':4'',1'''-Quaterphenyl]-4,4'''-diamine, N,N,N',N'-tetraethyl- (9CI) (CA INDEX NAME)

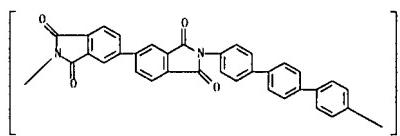


L5 ANSWER 191 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1975:459583 CAPLUS  
 DN 93:459583

TI Thermogravimetric study of the effect of the chemical structure of polyimides on their thermal stability  
 AU Koton, M. M.; Sazanov, Yu. N.  
 CS Inst. Macromol. Compounds, Leningrad, USSR  
 SO Journal of Thermal Analysis (1975), 7(1), 165-71  
 CODEN: JTREA9; ISSN: 0368-4466  
 DT Journal  
 LA English

AB The thermal stability of polyimides based on dianhydrides of pyromellitic acid, diphenyl, and oxydiphenyltetracarboxylic acids, and a series of aromatic diamines depended on the structure of the diamine component and the influence of structure decreased as the rigidity of the structure, and degree of ring fusion increase. Polymers with aliphatic units in the diamine component had the lowest thermal stability. Replacement of a (CH2)6 chain by a tolyl group increased the thermal stability. As the structure of the polyimide was saturated with aromatic and heterocyclic units, the thermal stability increased. Polyimides containing diphenyl, terphenyl, oxydiphenyl, benzophenone, and phenoxyne groups in the diamine component had a high thermal stability in the range 370-420° and polyimides with a phenoxyne group in the diamine component had the highest thermal stability. For rigid-chain polyimides stable at ≤350° thermal degradation began at the weak points or bonds which were independent of the chemical structure of the diamine or dianhydride components.

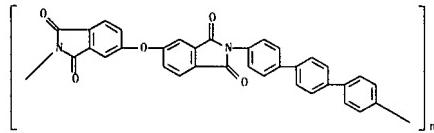
IT 26402-03-9 55919-26-1  
 RL: PRP (Properties)  
 (thermal stability of)  
 RN 26402-03-9 CAPLUS  
 CN Poly[1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isindole]-2,2'-diyl][1,1':4',1''-terphenyl]-4,4'''-diyl] (9CI) (CA INDEX NAME)



RN 55919-26-1 CAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isindole-5,2-diyl)[1,1':4',1''-terphenyl]-4,4'''-diyl] (9CI) (CA INDEX NAME)

L5 ANSWER 191 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

(Continued)

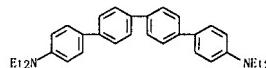


L5 ANSWER 191 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1975:24115 CAPLUS  
 DN 82:24115

TI Spectroscopic studies of some laser dyes  
 AU Pavlopoulos, T. G.; Hammond, P. R.  
 CS Nav. Electron. Lab. Cent., San Diego, CA, USA  
 SO Journal of the American Chemical Society (1974), 96(21), 6568-79  
 CODEN: JACSAT; ISSN: 0002-7863  
 DT Journal  
 LA English

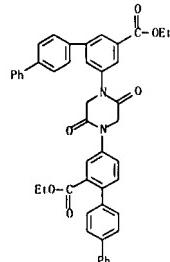
AB The chief parameters determining laser action of organic dyes are discussed. A favorable conformation in a chromophore to convert it into potential laser dye is an azuochromic-group-substituted compound showing only small triplet-triplet (T-T) absorption over its fluorescence region. T-T laser photoselection spectroscopy is a valuable tool for obtaining polarization data on T-T absorption bands. The S-S absorption, fluorescence and T-T absorption and polarization spectra of p-terphenyl, p-quaterphenyl, PPO, 2,2-(4-biphenyl)oxazole, POPP, and 2-(1-naphthyl)-6-phenyloxazole were measured. The absorption and polarization properties indicate an improvement in laser action should occur when they are para-substituted by azuochromic, p,p'-dimino- and p,p'-N,N,N',N'-tetra(n-hydramino)quaterphenyl, p,p'-dimino- and p,p'-N,N,N',N'-tetra(n-hydramino)quaterphenyl, and p,p'-dibutoxy-POPPO were synthesized. Their T-T absorption showed remarkably large red shifts; moreover, the bands for the aminoooligophenylenes were very broad. This indicates nonplanarity of higher triplet states. Out-of-plane mol. electronic states reduce quantum fluorescence yield. To improve laser performance, ways to render the mol. coplanar are presented. Com. available laser dyes are classified according to their conformations, and some of their spectroscopic data are presented. Dyes with far better laser action properties could be synthesized. Some suggestions are made as to which chromophores appear most promising for conversion into potential laser dyes.

IT 53693-68-8  
 RL: PRP (Properties)  
 (lasing by mol. structure and optical properties in relation to)  
 RN 53693-68-8 CAPLUS  
 CN [1,1':4",1'':4'',1'''-Quaterphenyl]-4,4'''-diamine, N,N,N',N'-tetraethyl- (9CI) (CA INDEX NAME)





L5 ANSWER 196 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L5 ANSWER 197 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1965-36588 CAPLUS

DN 52-36588

OREF 82-8425f-h, 6426s

TI Potential antitumor agents. III. Polyporic acid

AU Cain, B. F.

CS Cornwall Hosp., Auckland, N. Z.

SO Journal of the Chemical Society (1964), (Dec.), 5472-4

CODEN: JCSOA9; ISSN: 0368-1769

DT Journal

LA English

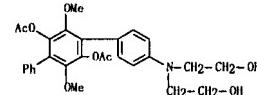
AB cf. CA 58, 15409. Dioxolized p-O2NC6H4N12 condensed with 3,6-dichloro-2-phenyl-1,4-benzoquinone (I) in AcOH-buffered solution by the method described previously (loc. cit.) yielded the 5-(p-O2NC6H4) derivative (II) of I. II with NaH gave the corresponding 3,6-dihydroxy analog (III) of II. III in C6H6 with Na in MeOH yielded the 3,6-dimethoxy analog (IV) of II. III in MeOH boiled briefly with NaBH4, cooled, treated with AcOH in MeOH and then with addnl. ams. NaBH4, the mixture boiled briefly, and acidified with HCl yielded the quinol, which with Ac2O containing HCl gave IV. IV in 60% aqueous EtOH refluxed 15 min. with Na2S2O4, and the resulting crude amine treated in AcOH and H2O several hrs. at room temperature with ethylene oxide and kept overnight with addnl. ethylene oxide gave 5-[p-(HO)2C(CH2)2N2C6H4] analog (V) of IV. V and Na2S2O4 in boiling EtOH treated with KOH and Na2S2O4 in H2O, shaken at room temperature, treated with concentrated HCl, and diluted with H2O, and the precipitate dissolved in AcOH and reppid, with ferric alum in H2O yielded 5-[p-bis(2-hydroxyethylamino)phenyl]-3,6-dimethoxy-2-phenyl-1,4-benzoquinone (VI), orange plates, m. 251-2° (aqueous EtOH and aqueous AcOH). VI, POCl3, and CMC13 refluxed and evaporate in vacuo, and the residual brown gum refluxed with MeOH and concentrated HCl (saturated with CaCl2) yielded 5-[p-bis(2-chloroethylamino)phenyl]-3,6-dihydroxy-2-phenyl-1,4-benzoquinone (VII), microscopic needles with a bronze luster, m. above 360°; permanganate-colored in aqueous NaHCO3. VII caused in mice bearing acute lymphocytic leukemia statistically significant prolongation of life but only at dose levels which markedly depressed gain in body weight.

IT 1261-49-0. Ethanol, 2,2'-(2',5'-dihydroxy-3',6'-dimethoxy-p-terphenyl-4-yl)imino di-, 2',5'-diacetate

RL: PREP (Preparation)

RN 1261-49-0 CAPLUS

CN Ethanol, 2,2'-(2',5'-dihydroxy-3',6'-dimethoxy-p-terphenyl-4-yl)imino di-, 2',5'-diacetate (TCl, RCI) (CA INDEX NAME)



L5 ANSWER 198 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1967-17167 CAPLUS

DN 51-17167

GREF 51:3526a-1, 3527a-c

TI Dye theory. Triarylmethane dyes of the biphenyl series. II

AU Theilacker, Walter; Berger, Wilhelm; Popper, Peter

CS Tech. Hochschule Hannover, Germany

SO Chemische Berichte (1958), 89, 970-83

CODEN: CHBAM: ISSN: 0009-2940

DT Journal

LA Unavailable

OS CASREACT 17167

AB cf. C.A. 45, 707H; preceding abstract. The Ph homologous crystal violet carbinal (I) has been prepared and a new method for the preparation of the Ph homologous malachite green carbinal (I) is given. Fuming Ph (8 cc.) is added slowly to 13 g. (p-NaOAc)2CO in 80 cc. concentrated H2SO4. After 5-7° the mixture kept overnight, decomposed with ice-H2O, the precipitate extracted with boiling Na2CO3, dried, extracted with hot BuOH, and the residue reprecipitated from dioxane-H2O, giving 30% bis(2,4-dinitro biphenyl)ketone, slightly yellow needles, m. 223-4°. Treating 6 parts of 4-O2NC6H4C6H4CO2H-4 (III) with 5 parts PC15 8 hrs. with frequent shaking, and heating the mixture 8 hrs. on a water bath give 4'-nitro biphenyl-4-carbonyl chloride (IV), needles, m. 192-3°. Heating 19 g. IV in 100 cc. C6H6 with 15 g. anhydrous AlCl3 4 hrs. on a water bath, distilling the C6H6, decomposing the residue with iced HCl, and recryst. the precipitate give 68% 4-nitro-2-benzoylphenyl (V), slightly yellow needles, m. 156-7°. V is also prepared in 40% yield by heating 100 g. p-O2NC6H4Ph, 125 g. AlCl3, and 220 g. BzCl in 400 cc. PhNO2 6 hrs. at 100°, 3 hrs. at 150°, and 5 hrs. at 170°, pouring the solution into HCl (I), 1, steam distilling the mixture, and extracting the precipitate with Me2CO. Reduction of

V with SnCl2 in HCl at 100° gives 73% 4-amino-4'-benzoyl biphenyl (VI), yellow leaflets, m. 143-4°. Heating 2.7 g. VI, 2.6 g. anhydrous K2CO3, and 47 g. Mel 6 hrs. at 180°, distilling the excess Mel, and crystallizing the residue from H2O give 27% trimethyl(4'-benzoyl-4-biphenylammonium iodide) (VII), which, thermally decomposed, gives 4-dimethylamino-4'-benzoyl biphenyl (VIII), yellow leaflets, m. 182-3°. Heating 2 g. VI, 4 g. K2CO3, and 46 g. Mel in an autoclave 3 hrs. at 210° gives 46% VI. Adding dropwise (3 hrs.) 50 g. Me2SO4 to 7 g. VI in 75 cc. 1-C10H7Me and 75 cc. 40% NaOH heated at 160° and pouring the cold mixture into H2O give 16% VIII; from the mother liquors 45% 4-methylamino-4'-benzoyl biphenyl, m. 175°, is isolated. Heating 10 g. VI, 6 g. Ph2, and 5.2 g. AlCl3 in 90 cc. PhNO2 1 hr. each at 120, 130, and 140°, decomposing the cold mixture with H2O, steam distilling it, extracting the precipitate with hot dilute HCl and diluting Na2CO3, and

crystallizing the residue from AcOH give 69% 4-phenyl-4-(p-nitrophenyl)-benzophenone (IX), leaflets, m. 258-9° (2,4-dinitrophenylhydrazone, red needles, m. 288-90°). Adding in small portions 4 g. IX to 170 cc. concentrated H2SO4 and 30 cc. AcOH at -5°, then adding 1.15 g. KN3 in concentrated H2SO4 and AcOH, keeping the mixture several hrs. at 0° decomposing it with ice, and washing the precipitate with KOH-MeOH and MeOH give 55% 4,4'-bis(p-nitrophenyl)benzophenone (X), light yellow needles, m. 243°. Reduction of 0.33 g. X in 100 cc. PhOMe 5 hrs. at 70° with 18 mg. used PtO2 gives 65% 4-(p-nitrophenyl)-4-(p-aminophenyl)benzophenone, m. 308-10°. Reduction of 1 g. X in 170 cc. PhOMe with 55 mg. PtO2 3 hrs. at 145° gives 80% 4,4'-bis(p-aminophenyl)benzophenone (XI), yellow crystals, m. 252-3°. XI is obtained when 50 g. Fe shavings and 200 cc. concentrated HCl are added in small portions to 7.5 g. X in 450 cc. cyclohexanone at 140-50°, the precipitate extracted with hot C6H6, and the extract diluted with H2O. Diazotizing 0.73 g. XI in 50 cc. dioxane and 180 cc. HCl (1:1) at -5° with the calculated amount of 0.5% NaNO2 solution, stirring the mixture several hrs., filtering it, adding 1 g. urea and a solution of 10 g. CuCl in 100 cc. concentrated HCl, heating it on a water bath, diluting it with

L5 ANSWER 199 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

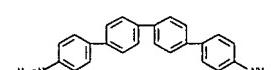
H2O, and chromatographically purifying the ppt. give 4,4'-bis(p-chlorophenyl)benzophenone, needles, m. 280-1°. Adding dropwise 75 g. Me2SO4 to 5.6 g. XI in 450 cc. PhOMe and 60 g. NaOH in 130 cc. H2O at 150-60°, steam dist. the mixt., and recryst. the ppt. from PhCl give 52% 4,4'-bis(p-dimethylaminophenyl)benzophenone (XII), orange-yellow crystals, sinter 285°, m. 295-300°. Reduction of 10 g. 4-iodo-4'-nitro biphenyl in 200 cc. cyclohexanone with 17.5 g. Fe shavings and 125 cc. concd. HCl gives 83% 4-iodo-4'-aminobiphenyl, m. 167°, which (7.5 g.) is heated in 75 cc. 1-C10H7Me in a Cu flask with 50% NaOH, then 35 cc. Me2SO4 added (2 hrs.), and the cooled soln. poured into H2O giving 74% 4-iodo-4'-dimethylaminobiphenyl (XIII), m. 224°. Adding slowly in N atm. 2.2 g. VIII in 20 cc. tetrahydrofuran (THF) to a Grignard reagent from 2.5 g. XIII in 100 cc. THF, refluxing the mixt. 24 hrs., distilling the THF, pouring the residue into NH4Cl, and keeping it 12 hrs. give 3.3 g. product, m. 140-60°, which is faintly crystall. from PhMe, giving 3 fractions: (a) a slightly sol. product, m. above 250° (probably a quaternary Ph deriv.); (b) a dark yellow fraction, m. 170-200°; (c) a yellow product, m. 70°. Fractions b and c (2.5 g.) are reprecipitated with the same amt. of Grignard reagent and the product isolated as before giving 1% phenylbis(4'-dimethylamino-4'-biphenyl)carbinol (XIV) (Ph homologous II), yellow crystals, m. 218°; its soln. in AcOH turns green on heating. Adding, in a N atm., 0.9 g. finely powd. anhyd. XII to a Grignard reagent from 5 g. XIII in 50 cc. THF, refluxing the mixt. 12 hrs. with stirring, pouring the concd. soln. into NH4Cl soln., exig. the ppt. with C6H6, and adding cyclohexane to the ext. give 0.5 g. triis(4'-dimethylamino-4'-biphenyl)carbinol (Ph homologous I) (XV), fine green-yellow crystals, m. 160-180° (decomp.). It dissolves in H2SO4 and in HClO4 with a deep red color. In AcOH (cold) it faintly reddish brown; (hot) a deep blue color, turning reddish brown again on cooling. The black-brown residue from the C6H6 ext. on recryst. from PhCl, gives a gray-green cryst. (putative) p,p'-bindimethylaminoquaterphenyl, m. around 350°. Diphenyl(4'-dimethylamino-4'-biphenyl)carbinol (XVI), prep'd. according to Morton and Wool (C.A. 34, 4077), needles, m. 178-9°. The absorption spectra (AS) of XIV and XV in AcOH-Ac2O are given and compared with those of II and I at 20, 100, and 117°, and that of diphenyl(4'-dimethylamino)phenyl)carbinol in AcOH; they are discussed in detail. The AS show that these color formations belongs to dye salts of the type of II and I.

IT 117878-74-7P. p-Quaterphenyl-4,4''-diamine, N,N,N',N'-tetramethyl-

RL: PREP (Preparation)

RN 117878-74-7 CAPLUS

CN p-Quaterphenyl-4,4''-diamine, N,N,N',N'-tetramethyl- (6CI) (CA INDEX NAME)



L5 ANSWER 199 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1953:31830 CAPLUS

DN 47:31836

OREF 47:5394c-h

TI ms-Bis(aminophenyl)anthradiols. I. ms-Bis(p-dialkylaminophenyl)anthradiols  
AU Etienne, Andre; Arcos, Josep Charles

CS College of France, Paris

SO Bulletin de la Societe Chirique de Franco (1951) 727-32

CODEN: BSCFAS ISSN: 0037-8968

DT Journal

LA Unavailable

AB cf. Willemart, C.A. 37, 5053, 6. p-BrC6H4Me2 (5 g.) warmed with 0.5 g. Li in ether gives p-LiC6H4Me2(I), which with 2.4 g. anthraquinone (II) gives 4 g. (78%) of 9,10-bis(p-dimethylaminophenyl)-9,10-dihydro-9,10-anthradiol (III), from PhMe crystallizing a mixture, m. 232-4°, of 2 dimorphic forms, m. 229.5° and 240-1°. III dipicrates, m. 173.5°. With dry HCl in Me2CO or dioxane, III gives the di-HCl salt, m. 232.5°, and with SOCl2 in PhMe impure 9,10-dichloro-9,10-dihydro-9,10-bis(p-dimethylaminophenyl)anthracene, m. 218°. The bis(diethylamino) homolog (IV) of III, made as above, m. 183-4.5°. PHN(CH2Ph)2 and Br-CHCl3 give p-BrC6H4(CH2Ph)2, m. 125°, which with Li and II gives the bis(dibenzylamino) analog (V) of III, m. 208-9°. I and 10-hydroxy-10-Ph anthrone (VI) give 95% of 9,10-dihydro-9-(p-dimethylaminophenyl)-10-phenyl-9-anthradiol (VII), m. 196.5°. I and VI Me ether give 84% of VII 10-Me ether, m. 182°. II (3.8 g.), 9.5 g. PHN2HCl, and 19 g. PHN2 heated 3 h. at 175° give 20% of 10,10-bis(p-aminophenyl)anthrone (VIII), m. 304-5°, which with PHN2HCl and PHN2 at 185° gives 76% 9,10-bis(p-aminophenyl)anthracene (IX), m. 313.5°, obtained in 50% yield directly from II, in the same way. IX with CrO3-HOAc gives II, and with BrH the bis(p-benzylideneaminophenyl) analog of IX, m. 353-3.5°. N,N'-Ac2 derivative of IX, m. 491-2°, m. 111 (0.25 g.) with 10% with 2.05 g. 1% (CH2Cl2-HCl) gives 43% of 9,10-bis(p-dimethylaminophenyl)anthracene (X), m. 500-2°, also obtained in 38% yield from III with HBr-HOAc. IX, K, and Mol at 150° give 50% of X. Similarly, IV with TiCl3 gives the bis(diethylamino) analog of X, m. 374.5-5.5°. V with HBr gives 85% of the bis(dibenzylamino) analog of X, m. 239-240°. VII with HBr gives 9-(p-dimethylaminophenyl)-10-phenylanthracene (XI), m. 302°. I and 10-phenylanthrone give a little 9-(p-dimethylaminophenyl)-9,10-dihydro-10-phenyl-9-anthrol (XII), m. 191.5°, and 70% XI. XII with HOAc gives XI.

IT 71901-29-6P. Aniline, N,N-dimethyl-p-10-phenyl-9-anthryl-

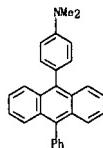
RL: PREP (Preparation)

(preparation of)

RN 71901-29-6 CAPLUS

CN Benzenamine, N,N-dimethyl-4-(10-phenyl-9-anthracenyl)-(9CI) (CA INDEX NAME)

L5 ANSWER 199 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L5 ANSWER 200 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1926:21873 CAPLUS

DN 20:21873

OREF 20:26771-1,2678a-f

TI 1,5-Dichloro-9-phenylanthracene

AU Barnett, E. de B.; Mathews, M. A. Berichte der Deutschen Chemischen Gesellschaft: [Abteilung] B: Abhandlungen (1926), 59B, 670-9

CODEN: RODCBAD ISSN: 0365-9488

DT Journal

LA Unavailable

AB cf. C. A. 19, 2489. Halogens in the  $\alpha$ -position greatly influence the reactivity of the  $\alpha,\beta$ -positions, while the group in 1 $\alpha$  of the monosubstituted ring has also a great influence but in general opposite to that of an  $\alpha\beta$ -C atom. It therefore was of interest to study a compound having both types of substituents and 1,5-dichloro-9-phenylanthracene (I) was chosen. 1,5-Dichloro-9-phenyl-10-anthrone (II), obtained almost quantitatively from the 9-Br compound in boiling C6H6 with AlCl3, does not materially differ in its properties from 1,5-dichloroanthrone but shows a distinctly slighter tendency to enolize; it is unattacked by a large excess of Cl in CCl4 with or without a trace of I, while the corresponding anthralin acetate (III) evolves heat and yields 1,5,9-trichloro-9-phenylanthrone (IV). Br reacts in the same way but in boiling AcOH attacks both II and III, the latter much more rapidly. II in AcOH with HNO3 readily yields 1,5-dichloro-9-nitro-9-phenylanthrone (V) and under more energetic conditions the 9-HO compound (VI), whereas II is unchanged even after long boiling in AcOH, boiling with a large excess of concentrated HNO3, 1,5-dichloro-9-bromo-9-phenylanthrone (VII), is much more stable than the non-phosphated compound and can be dried in a steam oven without decomposition, is unchanged by treatment in boiling C6H6 suspension with dry NH3, is only slowly hydrolyzed by boiling aqueous Me2CO but is easily converted by NaOAc in boiling AcOH into the acetate (IX) of VI; it also shows some tendency to revert to II (e.g., when boiled in PhMe with or without Cu powder or when it is attempted to convert it into the 9,9-di-Ph compound by the Friedel-Crafts method). With Zn dust and HCl II is easily reduced to I. I readily adds Cl at the bridge union, forming a 9,10-dichloride (X); the extraordinary stability of X towards heat and alc. alkalies would indicate that it has the cis-configuration; moreover, aqueous Me2CO hydrolyzes it to a di-HO compound (XI) which probably has the cis-structure, as it liberates I from XI. X also forms diaryloxy compds. On the other hand, several reactions of the X point to a trans-structure; thus, with PHN2H and PHN2 1,1'-VC and 1,5-dichloro-9-phenyl-10-anthrone (XII) and 10-dimethylaminophenylanthracene (XIII), resp., and in the formation of the di-EtO compound there is also obtained (rarely as chief product) 1,5-dichloro-9-phenylanthracene Et ether (XIV). In all these reactions, HCl is eliminated and the bridge union is restored. Heated alone at 180°, X very slowly loses HCl and yields 1,5,10-trichloro-9-phenylanthracene (XV), whereas in indifferent solvents (xylene, cymene) it gives only resinous products. The 2-fold properties of X may be due to a change in its configuration on heating or treatment with suitable reagents. If steric influences favor the trans- rather than the cis-configuration the dibromides should have greater tendency than X to go over into the trans-form, and as a matter of fact no addition product of Br to X can be isolated, in apparently at once lost in the bridge union. 1,5-dichloro-9-phenyl-10-anthrone (I) is converted by HNO3 in AcOH with I an addition product converted at once by the AcOH into 1,5-dichloro-9-phenyl-9-acetoxy-10-nitro-9,10-dihydroanthracene (XVII), which is remarkably stable, being unchanged by boiling C6H5N. II, m. 245°, III, from II and Ac2O in C6H5N on the H2O bath, yellow, m. 167°; IV, m. 195°. VIII, from 3 g. III with Br in CS2 suspension, yield, 2.8 g. or from II and Br in boiling AcOH, m. 171°; V, m. 140° (decomposition). VII, m. 270°. VI, also obtained from II in boiling C6H5N slowly treated with CrO3 in aqueous C6H5N, m. 224°; IX, m. 254°. I (25 g. from 40 g. II), yellow, m.

L5 ANSWER 200 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

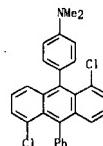
104°; XVI, yellow, m. 174-5°. X (16 g. from 15 g. I), m.

175° (decompn.). XV, lemon-yellow, m. 96°. XII, yellow, m.

194°. XIII, yellow, m. 232°. XI, m. 164° (decompn.);

di-Me ether (2.4 g. from 3 g. X refluxed in MeOH), m. 210°; di-Et ether m. 201°. XIV, yellow, m. 124°. XVII (3.8 g. from 5 g. I), m. 171° (decompn.), converted by boiling alc. and 1 drop concd. H2SO4 into the 9-EtO compd., m. 200°.

IT 861298-58-OP. Aniline, p-(1,5-dichloro-10-phenyl-9-anthryl)-N,N-dimethyl- (9CI) (CA INDEX NAME)



L5 ANSWER 201 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1917:16193 CAPLUS

DN 11:16193

OREF 11:3235f-i, 3236a-i, 3237a

TI Derivatives of  $\alpha$ -dialkylaminobenzoyl- $\omega$ -benzoic acids. I

AU Perard, J.

SO Annali di Chimica Applicata (1917), 7, 340-414

DT CODEN: ACAPAR: ISSN: 0365-1037

LA Journal

GI Unavailable

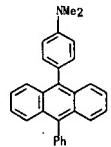
AB For diagram(s), see printed CA issue.

The interaction of  $\text{PhMgBr}$  and  $p\text{-Me}_2\text{NC}_6\text{H}_4\text{COC}_6\text{H}_4\text{CO}_2\text{Me}$ , m. 118° (a), in  $\text{Et}_2\text{O}$  followed by the addition of ice- $\text{H}_2\text{O}$ , gave rise to a compound (A), which reacted as  $\alpha\text{-p-dimethylaminophenyl-}\beta\text{-hydroxy-}$   
 $\alpha',\alpha'\text{-diphenyl-}\alpha,\alpha'\text{-dihydro-}\beta,\beta'$ -benzofuran,  $\text{C}_2\text{H}_2\text{C}_6\text{H}_4\text{C(O)(C}_6\text{H}_4\text{Me}_2\text{)}_2$ , 0, or  $\alpha\text{-[p-dimethylaminobenzoyl-]phenyl-}(\text{p-phenylcarbinol})$ ,  $\text{Me}_2\text{NC}_6\text{H}_4\text{COC}_6\text{H}_4\text{CPh}_2\text{OH}$ , microcrystals, m. 139°, which reacts with aqueous  $\text{H}_2\text{SO}_4$  to form the hydrogen chloride salt,  $\text{Me}_2\text{NC}_6\text{H}_4\text{COC}_6\text{H}_4\text{CPh}_2\text{OH} \cdot 0.5\text{HCl}$ , yellowish red needles, m. 140° (decomposition). On treatment with alkali, it is readily converted into (A). The chloride derived from (A), red needles, m. 140-50° (decomposition). The chloroplatinate of (A), brilliant red microneedles, m. 190-200° (decomposition). Oxime of (A), leaflets, m. 179° (decomposition). The methyl ether of (A), m. 158°, is not decomposed by alc.  $\text{KOH}$ , but is reconverted into (A) on treatment with concentrated  $\text{H}_2\text{SO}_4$  in  $\text{PhH}$ ; ethyl ether of (A), m. 175°. Reduction of (A) in  $\text{EtOH}$  with  $1\%$   $\text{Na-Na}_2\text{K}$  yielded  $\alpha\text{-[p-dimethylaminohydroxybenzyl]phenylidiphenylcarbinol}$  (B),  $\text{Me}_2\text{NC}_6\text{H}_4\text{C(O)(C}_6\text{H}_4\text{CPh}_2\text{OH)}$ , m. 175°. The yield is quant. The oxidation of (B) in  $\text{PhH}$  by means of chloranil reconverted it into (A). Other oxidizing agents such as  $\text{CrO}_3$ ,  $\text{PbO}_2$ , etc., reacted with (A) to form a violet dye which was not purified nor identified. When (B) in  $\text{AcOH}$  was treated with a mixture of equal parts  $\text{AcOH}$  and  $\text{H}_2\text{SO}_4$ , and the resulting red soln was treated with  $\text{NH}_3$ , two stereoisomeric  $\alpha\text{-p-dimethylaminophenyl-}\alpha\text{-[diethylaminophenyl-}\alpha',\alpha'\text{-diphenyl-}\beta,\beta'$ -benzofuran,  $\text{C}_2\text{H}_2\text{C}_6\text{H}_4\text{C(O)(C}_6\text{H}_4\text{Me}_2\text{)}_2$ , 0, m. 130° and 110° (the latter being the more soluble in  $\text{Et}_2\text{O}$  but less soluble in the  $\text{EtOH}$ ), were formed. Both isomers, in  $\text{PhH}$ , when gradually treated with concentrated  $\text{H}_2\text{SO}_4$  were dehydrated with the formation of  $9\text{-p-dimethylaminophenyl-10-phenylanthracene}$  (C), green microcrystals precipitated from  $\text{PhH}$  by petrol ether, m. 298°, together with a small amount of an unidentified compound, m. about 360° (C 72.6%; H 7.6%). (C) was also formed directly from (B) by dehydrating with  $\text{H}_2\text{SO}_4$ . The reduction of (C) in  $\text{MeOH}$  with  $\text{Na-Na}_2\text{K}$  resulted in the formation of  $9\text{-p-dimethylaminophenyl-10-phenyl-9,10-dihydroanthracene}$  needles, m. 184°. The condensation of (B) with  $\text{HNEt}_2$  in  $\text{AcOH}$  gave rise to  $\alpha\text{-[p-dimethylaminohydroxybenzyl]phenyl-}(\text{p-dimethylaminophenyl)diphenylmethane}$ ,  $\text{Me}_2\text{NC}_6\text{H}_4\text{C(O)(C}_6\text{H}_4\text{CPh}_2\text{OEt}_2)$ , prisms, m. 122°. A similar condensation with  $\text{HNEt}_2$  yielded  $\alpha\text{-[p-dimethylaminohydroxybenzyl]phenyl-}(\text{p-dimethylaminophenyl)methane$ , microcrystals, m. 128°. (A) reacts with  $\text{R}_2\text{CuLi}$  to form tetraalkylammonium derivs. of the furan type. When combined with  $\text{Me}_2\text{NCO}$  in  $\text{AcOH}$  it gave rise to  $\alpha\text{-[p-dimethylaminophenyl-}\alpha\text{-[dimethylaminophenyl-}\alpha',\alpha'\text{-diphenyl-}\beta,\beta'$ -benzofuran (D), obtained in 2 crystalline forms from  $\text{PhH-alc}$ , microprisms, m. 160°, slightly soluble in  $\text{EtOH}$ , and long needles, m. 166°, very soluble in  $\text{EtOH}$ . Neither form reacts with  $\text{H}_2\text{NPh}$ , and no reduction follows treatment with  $\text{Na-Na}_2\text{K}$ . The reduction of (D) with  $\text{Zn}$  dust in  $\text{AcOH}$  gave rise to the malachite green leucobase derivative  $\text{di-[dimethylaminophenyl-}\alpha\text{-benzohydrylphenylmethane}$  (E), ( $\text{Me}_2\text{NC}_6\text{H}_4\text{C}_2\text{H}_2\text{C(O)(C}_6\text{H}_4\text{CPh}_2\text{)}$ , long needles, m. 225°. A reaction similar to the one which yielded (D) gave rise to  $\alpha\text{-[dimethylaminophenyl-}\alpha\text{-diethyl-}\beta\text{-aminophenyl-}\alpha',\alpha'\text{-diphenyl-}\beta,\beta'$ -benzofuran (F), obtained in 0.5 g. from  $\text{PhH-alc}$ , microprisms, m. 150°, white crystals from  $\text{PhH}$  containing 1 mol.  $\text{PhH}$ , m. 90°. When (F) was warmed in the steam bath with concd.  $\text{H}_2\text{SO}_4$  until a drop of the soln. in  $\text{H}_2\text{O}$  gave a bluish violet fluorescence, then dried, and neutralized with  $\text{NaOH}$ , 9,9-di-[dimethylaminophenyl]-10-hydroxy-10-phenyl-9,10-dihydroanthracene (G), prisms from  $\text{PhH-alc}$ , m. 228°, was formed. (F) when treated with  $\text{Me}_2\text{NPh}$  in  $\text{AcOH}$  gave 9,9,10-tri-[p-dimethylaminophenyl]-10-phenyl-9,10-dihydroanthracene, microcrystals, m. 264°, 9,9-di-[p-dimethylaminophenyl]-10-dimethylaminophenyl-10-phenylidihydroanthracene, m. 250°. When heated in  $\text{MeOH}$  with  $\text{HCl}$  and subsequently treated with  $\text{NaOH}$ , (F) yielded the corresponding 10-methyl ether, m. 175°. The 10-ethyl ether of (F), leaflets, m. 170°. When treated with  $\text{Zn}$  and  $\text{AcOH}$ , (F) was reduced with the formation of di-[p-dimethylaminophenyl]-10-phenyl-9,10-dihydroanthracene, ( $\text{Me}_2\text{NC}_6\text{H}_4\text{C}_2\text{H}_2\text{C}_6\text{H}_4\text{C(O)(C}_6\text{H}_4\text{Me}_2\text{)}$ , m. 283°. By means of a reaction similar to the one which yielded (F), P, obtained from di-[p-dimethylaminophenyl]-9-p-dimethylaminophenyl-10-hydroxy-10-phenyl-9,10-dihydroanthracene, m. 220°, a related isomeric form of (a), (b), m. 116°, was prepared, by a method analogous to the one used by Meyers in the prepn. of  $\text{Br}_2\text{C}_6\text{H}_4\text{CO}_2\text{Me}$  (cf. Monatsh. Chem. 35, 475 (1904)). A mixt. of (a) and (b), m. 95°. When treated with  $\text{PhMgBr}$ , (b) gave a poor yield of (A) together with much resinous material. The interaction of  $\text{Et}_2\text{NC}_6\text{H}_4\text{COC}_6\text{H}_4\text{CO}_2\text{Me}$ , m. 108°, and  $\text{PhMgBr}$  led to the formation of a compound (G) which is either  $\alpha\text{-p-dimethylaminophenyl-}\beta\text{-hydroxy-}$   
 $\alpha',\alpha'\text{-diphenyl-}\alpha,\alpha'\text{-dihydro-}\beta,\beta'$ -benzofuran or the isomeric  $\alpha\text{-[p-dimethylaminobenzoyl]phenylidiphenylcarbinol}$ . prisms, m. 160°, which is analogous to (A). The following derivs. of (G) were obtained by methods similar to those used in the prepn. of the corresponding derivs. of (A). Methyl ether, microprisms, m. 138-9°; ethyl ether, needles, m. 118°; oxime, prisms, m. 170°;  $\alpha\text{-[p-dimethylaminohydroxybenzyl]phenylidiphenylcarbinol}$ , long needles from  $\text{Et}_2\text{O}$ , m. 140°;  $\text{Di-[p-dimethylaminophenyl-}\alpha,\alpha'\text{-diphenyl-}\beta,\beta'$ -benzofuran needles from  $\text{PhH-EtOH}$ , m. 163°.  $\text{Me}_2\text{NC}_6\text{H}_4\text{C}_2\text{H}_2\text{C}_6\text{H}_4\text{C(O)(C}_6\text{H}_4\text{Me}_2\text{)}$ , m. 150°, derived from (G) is identical with the compd. obtained from (A), thus justifying P, in assigning the furan structure to (A) and (G). 9,9-di-[p-dimethylaminophenyl]-10-hydroxy-10-phenyl-9,10-dihydroanthracene, m. 225°, 9,9,10-Tri-[p-dimethylaminophenyl]-10-phenyl-9,10-dihydroanthracene, microcrystals, m. 258°, and 9,9-di-[p-dimethylaminophenyl]-10-dimethylaminophenyl-10-phenylidihydroanthracene, m. 220°.

L5 ANSWER 201 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

IT 71901-29-6, 9-Anthracene- $\beta$ -aniline, N,N-dimethyl-10-phenyl-  
 RL: PREP (Preparation)  
 (preparation of)  
 RN 71901-29-6 CAPLUS  
 CN Benzeneamine, N,N-dimethyl-4-(10-phenyl-9-anthracenyl)- (YCI) (CA INDEX  
 NAME)

L5 ANSWER 201 OF 201 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



10/525, 622

Page 97

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L9     296 SEA FILE=CAPLUS ABB=ON PLU=ON "TANABE HIROSHI"/AU
L10    207 SEA FILE=CAPLUS ABB=ON PLU=ON "YAMADA NAOKI"/AU
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L12   653 SEA FILE=CAPLUS ABB=ON PLU=ON L6 OR L7 OR L8 OR L9 OR L10 OR
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L13     1 SEA FILE=CAPLUS ABB=ON PLU=ON L12 AND (MONOAMINO OR MONO(W) AM
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L13 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2004-203794 CAPLUS  
 DN 140-237125

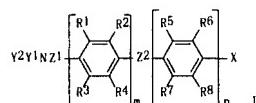
TI Mononamine fluorescent dyes and organic luminescence devices using them  
 IN Saito, Akihiro; Hiraoka, Mizuho; Senoo, Akihiro;  
 Tanabe, Hiroshi; Yamada, Naoki; Negishi, Chika

PA Canon Kabushiki Kaisha, Japan  
 SO PCT Int. Appl., 85 pp.  
 CODEN: PIXXD2

DT Patent  
 LA English  
 FAN CNT 1

| PATENT NO.           | KIND   | DATE     | APPLICATION NO. | DATE     |
|----------------------|--|----------|-----------------|----------|
| PI WO 2004020388     | A1   | 20040311 | WO 2003-JP10700 | 20030825 |
|                      | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,<br>CO, CR, CU, CZ, DE, DK, DM, DO, EC, EE, ES, FI, GR, GD, IE, GH,<br>GM, HR, IS, IT, ME, KG, KR, KZ, LC, LY, MT, NL, NO, PL, PT,<br>LT, LU, LV, MA, MD, MG, MN, MX, NY, NZ, NI, NO, NZ, OM, PC,<br>PH, RO, RU, SL, SD, SE, SG, SK, SI, SV, TJ, TM, TN, TR,<br>TT, TZ, UA, UC, US, UZ, VC, VN, YU, ZA, ZM, ZW |          |                 |          |
|                      | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,<br>KG, KZ, MD, RU, TJ, TZ, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,<br>FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,<br>BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MB, NE, SN, TD, TG  |          |                 |          |
| JP 2004083513        | A  | 20040318 | JP 2002-248745  | 20020828 |
| AU 20032357686       | A1   | 20040319 | AU 2003-257686  | 20030825 |
| US 2005244670        | A1   | 20051103 | US 2005-525622  | 20050225 |
| PRAI JP 2002-248745  | A  | 20020828 |                 |          |
| WO 2003-JP10700      | W  | 20030825 |                 |          |
| OS MARPAT 140:237125 |  |          |                 |          |

G1



AB Disclosed are monoamine fluorescent dyes (I); R1-R8 = H, halogen, organic group; X = H, halogen, organic group; Y1, Y2 = organic group, Y1Y2 may form a ring; Z1, Z2 = divalent group; m + n = 4-10). Using I, organic (electro)luminescence devices are provided, which exhibits a luminescence hue with extremely high purity, and having an optical output of a high luminescence with a high efficiency and a long lifetime. In one example, 4,4'-dibromo-2,2'-biphenol and 1,1'-bis[4-(phenylamino)-1-naphthyl]boronic acid was condensed (1:1) with 9-(phenylamino)anthracene and the monobromo product was treated with 1-naphthylboronic acid to provide a fluorescent amine dye.

RE. CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

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(FILE 'HOME' ENTERED AT 12:45:37 ON 23 JUN 2007)

FILE 'REGISTRY' ENTERED AT 12:45:46 ON 23 JUN 2007

L1           STRUCTURE UPLOADED  
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L2        8 SEA SSS SAM L1  
L3        508 SEA SSS FUL L1

FILE 'CAPLUS' ENTERED AT 12:47:00 ON 23 JUN 2007

L4        339 SEA ABB=ON PLU=ON L3  
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L5        201 SEA ABB=ON PLU=ON L4 AND PY<2004  
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D 1-201 BIB ABS HITSTR

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E TANABE HIROSHI/AU

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E YAMADA NAOKI/AU

L10      207 SEA ABB=ON PLU=ON "YAMADA NAOKI"/AU  
E NEGISHI CHIKA/AU

L11      12 SEA ABB=ON PLU=ON "NEGISHI CHIKA"/AU  
E L6 OR L7 OR L8 OR L9 OR L10 OR L11

L12      653 SEA ABB=ON PLU=ON L6 OR L7 OR L8 OR L9 OR L10 OR L11

L13      1 SEA ABB=ON PLU=ON L12 AND (MONOAMINO OR MONO(W)AMINO)  
D QUE L13 STAT  
D BIB ABS

## FILE HOME

### FILE REGISTRY

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=> d 1-12 cbib abs

L14 ANSWER 1 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
 2006:1115795 Document No. 145:47G508 Bonding agent for casting dies, casting dies, and manufacturing process for the casting die. Okuyama, Shin; Honma, Tsukasa; Saito, Akibito (Hodogaya Ashland Co., Ltd., Japan; Hyogo K. K.). Jpn. Kokai Tokkyo Koho JP 2006289467 A 20061026, 11pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2005-115885 20050413.

AB The disclosed bonding agent for casting dies comprises a cresol-modified phenolic resin, a B compound, and an isocyanate compound. The composition for casting dies contain the bonding agent, aggregates, and ternary amine type catalyst. Die manufacturing process involves mixing of a cresol-modified phenolic resin solution containing B comp with granular aggregates, molding the mixture, and curing by passing the gaseous ternary amine catalyst. The bonding agent prevent cracking and other structural damages in the long dies prepared by room temperature curing method.

L14 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
 2006:914047 Document No. 140:47G508 Joint materials for the organ baths [Machine translation]. Saito, Akibito (Yamaha Livingtech Corp., Japan). Jpn. Kokai Tokkyo Koho JP 2006230745 A 20060907, 7pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2005-50620 20050225.

AB [Machine Translation of Descriptors]. Provide the joint materials for the organ baths which can seal certainly the crevice between adjacent counters and wall-surface parts in the organ bath, the wall-surface part, or the organ bath. The joint materials 20 which consist of the elastic were attached to the crevice between the organ bath 14 and wall-surface part 11 grade and between the counter 16 and the right-wall surface panel 15b. These joint materials 20 consisted of the surface seal part 21 installed along with a part for the surface side part of the organ bath 14, and the plug pressure bonding part 22 which is prolonged toward the inside side of the crevice from the back surface of the surface seal part 21, and is installed along with the side piece of the organ bath 14. And a part for the central side part of the up-and-down direction of the plug pressure bonding part 22 incurvated the plug pressure bonding part 22 so that the side piece of the organ bath 14 might energize. Moreover, the elastic filling parts 23 and 24 were formed in the part interval which the plug pressure bonding part 22 projected. Furthermore, the surface seal part 21 consisted of the organ bath close part 21a close to the organ bath 14, and the wall-surface close part 21b close to wall-surface part 11 grade.

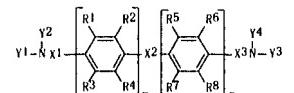
L14 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
 2005:566684 Joint structure of bathtub [Machine Translation]. Saito, Akibito (Yamaha Livingtech Corp., Japan). Jpn. Kokai Tokkyo Koho JP 2005168618 A 20050630, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2003-409972 20031209.

AB [Machine Translation of Descriptors]. It is not influenced by size of interval of the bathtub and the wall surface section, stabilizes and offer the joint structure of the bathtub which can install the bond. Wall surface section 11 and the like and joint structure 20 of the bathtub which is provided in the opening of the top edge of bathtub 14, fixed section the plural bond hubs 22 which have 26 and support section 27 and insertion section was formed with with the bond 21 which has 24 and blockade section 25. And, in wall surface section 11 and the like locking fixed section 26, support section 27 and with wall surface section 11 and the like wall surface section 14, a concave section 28 by inserting insertion section 24. In addition, 3 concave sections 24a were provided in insertion section 24, optional concave section 24a and engagement possible convex section 27a were provided in support section 27.

L14 ANSWER 4 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
 2004:303906 Document No. 140:361172 Organic light-emitting devices.

Saito, Akibito; Hiraoaka, Mizuho; Suzuki, Koichi; Senoo, Akibito; Tanabe, Hiroshi; Yamada, Naoki; Nagishi, Chika (Canon Kabushiki Kaisha, Japan). PCT Int. Appl. WO 2004020548 A1 20040311, 84 pp. DESIGNATED STATES: W, AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DT, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CV, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-JP10782 20030826. PRIORITY: JP 2002-248354 20020828.

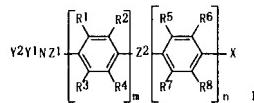
GI



AB Organic light-emitting devices comprising at least a pair of electrodes consisting of a anode and a cathode and a1 organic compound-containing layers sandwiched between the electrodes are described in which a1 organic compound-containing layer contains a1 compound selected from the group consisting of the compds. represented by the general formula I (Y1 and Y2, and Y3 and Y4 may bond to form rings; X1 and Y1 and/or Y2, and X3 and Y3 and/or Y4 may bond to form rings; X1, X2 and X3 = independently selected direct bonds or divalent groups selected from alkyne, aralkyne, arylene, divalent heterocyclic, alkenylene, imino, -SH2-, silylene, carbonyl, ether, and thioether groups having no substituents or a substituent which can include a linking group consisting of (un)substituted arylene or divalent heterocyclic groups; Y1-4 = independently selected alkyl, aralkyl, aryl, heterocyclic, amino, silyl, alkyne, aralkyne, alkenylene, imino, -SH2-, silylene, carbonyl, ether, and thioether groups having no substituents or a substituent which can include a linking group consisting of (un)substituted arylene or divalent heterocyclic groups; R1-4 = independently selected R, halogen, (un)substituted alkyl, (un)substituted aralkyl and (un)substituted arylgroups; and m + n = 0-10) in a host.

L14 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
 2004:203794 Document No. 140:237125 Monoamino fluorescent dyes and organic luminescence devices using them. Saito, Akihito; Hiraka, Mizuho; Senoo, Akihiro; Tanabe, Hiroshi; Yamada, Naoki; Negishi, Chika (Canon Kabushiki Kaisha, Japan). PCT Int. Appl. WO 2004020388 A1  
 20040311, 85 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SV, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2.  
 APPLICATION: WO 2003-JP10700 20030825. PRIORITY: JP 2002-248745 20020828.

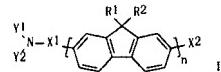
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AB Disclosed are monoamino fluorescent dyes (I; R1-R6 = H, halogen, organic group; X = H, halogen, organic group; Y1, Y2 = organic group, Y1Y2 may form a ring; Z = divalent group in the 4-10 membered ring, organic group) and organic electroluminescent devices using them which exhibit good luminescence and have optical output with extremely high purity, and having an optical output of a high luminance with a high efficiency and a long life time. In an example, 4,4'-dibromo-2,2',3,3'-5,5',6,6'-octafluoro-1,1'-biphenyl was condensed (1:1) with 9-(phenylaminophenanthrene) and the monohrome product was treated with 1-naphthylboronic acid to provide a fluorescent amine dye.

L14 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
 2004:203793 Document No. 140:254984 Monoaminofluorene dyes and organic light-emitting device using them. Saito, Akihito; Hiraka, Mizuho; Negishi, Chika (Canon Kabushiki Kaisha, Japan). PCT Int. Appl. WO 2004020387 A1  
 20040311, 101 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2.  
 APPLICATION: WO 2003-JP10260 20030812. PRIORITY: JP 2002-252846 20020830.

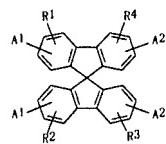
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AB Novel monoaminofluorene dyes (I; R1, R2 = H, organic group; X = H, halogen, organic group, CN: Y1, Y2 = organic group, Y1 and Y2 together may form a ring; Z = organic divalent group, direct bond; n = 1-10) are provided. Organic light-emitting/electroluminescent devices using I exhibit good luminescence and have optical output with extremely high purity and have optical output with high luminescence efficiency, high luminance and longer operating life. In an example, 2,2'-bis(9,9-dimethylfluorene) was prepared, monoiodinated on the 7-position, and condensed with bis(p-tolyl)amine to provide a fluorescent dye.

L14 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
 2004:203785 Document No. 140:254983 Spirobifluorene dyes and organic electroluminescent devices using them. Suzuki, Koichi; Hiraka, Mizuho; Senoo, Akihiro; Yamada, Naoki; Negishi, Chika; Saito, Akihito (Canon Kabushiki Kaisha, Japan). PCT Int. Appl. WO 2004020373 A1  
 20040311, 91 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2.  
 APPLICATION: WO 2003-JP10258 20030812. PRIORITY: JP 2002-246601 20020827.

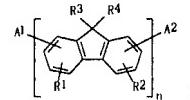
G1



AB Provided are novel spirobifluorenes (I; A1, A2 = optionally substituted polycyclic aromatic heterocyclic group; R1-R4 = H, organic group, substituted amino, CN, halogen). Organic electroluminescence devices using the spiro compound have an optical output with an extremely high efficiency and a high luminance, and an extremely high durability. In an example, 2,2',7,7'-tetrabromo-9,9'-spirobifluorene was treated with 9,9-dimethylfluorene-2-boronic acid in the presence of Pd(PPh3)4 to give a spirobifluorene compound containing 4 dimethylfluorene groups.

L14 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
 2004:203784 Document No. 140:254982 Fluorene dyes and organic electroluminescent devices using them. Suzuki, Koichi; Hiraka, Mizuho; Senoo, Akihiro; Yamada, Naoki; Negishi, Chika; Saito, Akihito; Tanaka, Daisaku; Yashiro, Ryoji (Canon Kabushiki Kaisha, Japan). PCT Int. Appl. WO 2004020372 A1 20040311, 87 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-JP10259 20030812. PRIORITY: JP 2002-246447 20020827.

G1



AB Fluorene dyes (I; A1, A2 = optionally substituted polycyclic aromatic group; R1, R2 = H, organic group, substituted amino, CN, halogen; n = 1-10) are disclosed which are used to provide organic electroluminescent devices. Such devices have an optical output exhibiting a high luminance with an extremely high efficiency, and have extremely high durability. In an example, 2,7-dibromo-9,9-dimethylfluorene was condensed (1:2) with 1-pyreneboronic acid to give a fluorescent dye.

L14 ANSWER 9 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
 2004:203783 Document No. 140:261171 Condensed polycyclic compounds and organic light-emitting device using the same. Suzuki, Koichi; Kawai, Tatsuhiko; Saito, Akihiro; Yamada, Naoki; Saito, Akio; Ito, Makoto. PCT Int. Appl. WO 2004020371 A1 20040311, 77 pp. DESIGNATED STATES: W, AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, DZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GR, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LX, LR, LS, LT, LU, LV, MA, MD, MG, ML, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZG, ZW; RW: AT, BE, BE, BJ, CF, CG, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, MD, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIIXD2. APPLICATION: WO 2003-JP10783 20030826. PRIORITY: JP 2002-246600 20020827; JP 2003-291191 20030811.

GI

## \* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The invention is directed to the preparation of condensed polycyclic compds. I as (component) of organic light-emitting devices that are extremely efficient in a light output with high luminance and is extremely durable. (R) = H, halo, cyano, substituted amino or (un)substituted alkyl, aralkyl, aryl; Ar1 to Ar5 = independently (un)substituted condensed polycyclic aromatic group or condensed polycyclic heterocyclic group. For example, Suzuki cross-coupling of hexabromobenzene with 9,9-dimethylfluorene-2-boronic acid gave 42% II and 17% all substituted 9,9-dimethylfluorenyl II. A device fabricated using II in the active layer exhibited blue emission with a luminance of 2800 cd/m<sup>2</sup> at a c.d. of 10 mA/cm<sup>2</sup>.

L14 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
 1998:302388 Document No. 129:05850 Silylated polymethylsilsesquioxanes having good storability, softness, heat resistance and compatibility with polyorganosilsesquioxanes and manufacture thereof. Ito, Masaki; Sudo, Michitaka; Saito, Akihiro (Dow Corning K. K., Japan; Dow Corning Asia Ltd.), Jpn. Kokai Tokkyo Koho JP 10158403 A 19980616 Heisei, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-317776 19961128.

AB The title polymers having polystyrene-equivalent Mn 380-2000 are [MeSiO<sub>3/2</sub>]<sub>n</sub>[MeSi(OH)<sub>2/2</sub>]<sub>m-k</sub>[MeSi(OSiR<sub>1</sub>R<sub>2</sub>R<sub>3</sub>)<sub>2/2</sub>]<sub>k</sub> obtained by silylating the silanol group of the polymethylsilsesquioxane [MeSiO<sub>3/2</sub>]<sub>n</sub>[MeSi(OH)<sub>2/2</sub>]<sub>m</sub> with, e.g., trimethylchlorosilane, wherein m and n are nos. to provide the above mol. weight, with the m/(m + n) values fall in an area by lines connecting the points m/(m + n) = 0.152/(Mn x 10<sup>-3</sup>) + 0.10; 1/(Mn x 10<sup>-3</sup>) = 1000/2000; 1/(Mn x 10<sup>-3</sup>) = 1000/380; and m/(m + n) = 0.034/(Mn x 10<sup>-3</sup>); k < m; (m - k)/(m + n) ≤ 0.12 (residual silanol group content); R<sub>1</sub>-3 = (un)substituted inert hydrocarbon group.

L14 ANSWER 10 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
 1999:70423 Document No. 130:183247 Curable silicone resins with good storage stability, their heat-curable cured products, and their manufacture. Ito, Masaki; Sudo, Michitaka; Zeng, Gregg Alan; Saito, Akihiro; Moriyama, Teruaki (Dow Corning Asia Ltd., Japan; Jpn. Kokai Tokkyo Koho JP 11021353 A 19990126 Heisei, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-174157 19970630.

AB The curable silicone resins with nominal structure [RSi(OH)<sub>20</sub>.5]a(RSiO<sub>1.5</sub>)<sub>b</sub>[RSi(OH)<sub>20</sub>.5]d [each R = hydrocarbyl; a + b + c + d = 1 (a ≥ 0; b, c, d > 0); 0.001 ≤ (a + b)/(c + d) ≤ 1.0; 0.12 ≤ c/(c + d) ≤ 0.35] are manufactured by hydrolytic condensation of RSiX<sub>3</sub> (A: R = hydrocarbyl; X = halogen) and Y(SiR<sub>2</sub>O)<sub>n</sub>SiR<sub>2</sub>Y (B; R = hydrocarbyl; Y = halogen, OH, H; n = 0-300) in a 2-phase reaction system comprising (1) O-containing organic solvents or their mixts. with ≤50 volume% hydrocarbon solvents and (2) H<sub>2</sub>O which may contain 1-8 equiv (per mol) halogen in A and B water-soluble inorg. bases or weak acid salts having buffering ability. The cured products are manufactured from the resins by heating at 50-350° or at 20-350° in the presence of catalysts or crosslinking agents. Thus, 0.345 mol Mn diacetate reacted with 0.0004 mol Sn diacetatoacetone in CHCl<sub>3</sub> at 260° to give a resin showing Mn 4830 and Mn 1230, with no change in mol. weight or solubility for 6 mo at room temperature exposed to air. Then, a CHCl<sub>3</sub> solution containing 1 g of the resin and 5 mg Sn diacetatoacetone was cast on glass, left at room temperature for 2 h, and the resulting film heated at 100-200° to give a test piece showing shear modulus 490, 210, and 125 MPa at 25, 100, and 200°, resp.

L14 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
 1998:146081 Document No. 128:205489 Curable polyethylsilsesquioxane compositions. Ito, Masaki; Michinori, Tetsuya; Saito, Akihiro (Dow Corning K. K., Japan; Dow Corning Asia Ltd.), Jpn. Kokai Tokkyo Koho JP 10060279 A 19980303 Heisei, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-217436 19960819.

AB Title compns. comprise a polymethylsilsesquioxane with number-average mol. weight 380-2000 (using polystyrene as standard) and formula (CH<sub>3</sub>SiO<sub>3/2</sub>)<sub>n</sub>[CH<sub>3</sub>Si(OH)<sub>2/2</sub>]<sub>m</sub> and colloidal silica 5-250 parts (based on 100 parts of the siloxane). The silsesquioxanes are prepared by hydrolytic polymerization of methyltrihalosilanes. The compns. are useful in providing water-repellent coatings.

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L14 ANSWER 4 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2004-2030906 CAPLUS

DN 140-261172

TI Organic light-emitting devices

IN Saito, Akihiro; Hiraoaka, Mizuho; Suzuki, Keiichi; Senoo, Akihiro;

Tanabe, Hiroshi; Yamada, Naoki; Nagishi, Chika

PA Canon Kabushiki Kaisha, Japan

SO PCT Int. Appl., 84 pp.

CODEN: PIXXD2

DT Patent

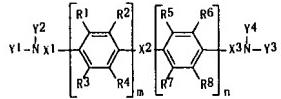
LA English

FAN.CNT 1

| PATENT NO.          | KIND   | DATE     | APPLICATION NO.  | DATE     |
|---------------------|--|----------|--|----------|
| PI WO 2004020548    | A1   | 20040311 | WO 2003-JP10782  | 20030826 |
|                     | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, E, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MG, MK, MN, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, TZ, UA, VE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UC, US, UZ, VC, VN, YU, ZA, ZM, ZW |          | RW: GH, GM, KE, LS, MW, MZ, SD, SI, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, HG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GR, GR, HU, IE, IT, LU, MC, NL, PT, RD, SE, SI, SK, TR, RF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG |          |
| JP 2004087363       | A  | 20040318 | JP 2002-248354   | 20020828 |
| AU 2003256084       | A1   | 20040319 | AU 2003-256084   | 20030826 |
| US 2006068221       | A1   | 20060330 | US 2005-525198   | 20050222 |
| PRAI JP 2002-248354 | A  | 20020828 |  |          |
| WO 2003-JP10782     | W  | 20030826 |  |          |

OS MARPAT 140:261172

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AB Organic light-emitting devices comprising at least a pair of electrodes consisting of an anode and a cathode and  $\geq 1$  organic compound-containing layers sandwiched between the electrodes are described in which  $\geq 1$  organic compound-containing layer contains  $\geq 1$  compound selected from the group consisting of the compds. represented by the general formula I (Y1 and Y2, and Y3 and Y4 may bond to form rings; X1 and Y1 and/or Y2, and X3 and Y3 and/or Y4 may bond to form rings; X1, X2 and X3 = independently selected direct bonds or divalent groups selected from alkylene, aralkylene, arylene, alkylene, arylene, alkylene, alkenylene, imino,  $\sim SiH_2$ , silylene, carbonyl, ether, and thioether groups having no substituents or a substituent which can include a linking group consisting of (un)substituted arylene or (un)substituted arylene or divalent heterocyclic groups; Y1-4 = independently selected alkyl, aralkyl, aryl, heterocyclic, amino, silyl, alkyne, aralkyne, alkenyne, imino,  $\sim SiH_2$ , silylene, carbonyl, ether, and thioether groups having no substituents or a substituent which can include a linking group consisting of (un)substituted arylene or

L14 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2004-203794 CAPLUS

DN 140-237125

TI Mononuclear fluorescent dyes and organic luminescence devices using them

IN Saito, Akihiro; Hiraoaka, Mizuho; Senoo, Akihiro; Tanabe,

Hiroshi; Yamada, Naoki; Nagishi, Chika

PA Canon Kabushiki Kaisha, Japan

SO PCT Int. Appl., 85 pp.

CODEN: PIXXD2

DT Patent

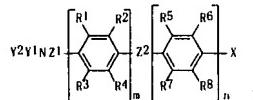
LA English

FAN.CNT 1

| PATENT NO.          | KIND   | DATE     | APPLICATION NO.  | DATE     |
|---------------------|--|----------|--|----------|
| PI WO 2004020388    | A1   | 20040311 | WO 2003-JP10700  | 20030825 |
|                     | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, E, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MG, MK, MN, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, TZ, UA, VE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UC, US, UZ, VC, VN, YU, ZA, ZM, ZW |          | RW: GH, GM, KE, LS, MW, MZ, SD, SI, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, HG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GR, GR, HU, IE, IT, LU, MC, NL, PT, RD, SE, SI, SK, TR, RF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG |          |
| JP 2004083513       | A  | 20040318 | JP 2002-248745   | 20020828 |
| AU 2003257686       | A1   | 20040319 | AU 2003-257686   | 20030825 |
| US 2005244670       | A1   | 20051103 | US 2005-525622   | 20050225 |
| PRAI JP 2002-248745 | A  | 20020828 |  |          |
| WO 2003-JP10700     | W  | 20030825 |  |          |

OS MARPAT 140:237125

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AB Disclosed are monoamine fluorescent dyes (I; R1-R8 = H, halogen, organic group -X, H, halogen, organic group -Y1, Y2 = organic group, Y1Y2 may form a ring; Z1, Z2 = phenyl, naphthyl, m + n = 4-10), using I, organic (electro) luminescence devices are provided, which exhibits a luminescence hue with extremely high purity, and having an optical output of a high luminance with a high efficiency and a long life time. In an example, 4,4'-dibromo-2',3',5,5',6,6'-octafluoro-1,1'-biphenyl was condensed (1:1) with 1-naphthylboronic acid to provide a fluorescent amine dye.

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 4 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
divalent heterocyclic group -R1-4 independently selected H, halogen, (un)substituted alkyl, (substituted aralkyl and (un)substituted arylgroup); and m + n = 0-10) in a host.

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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| => log y<br>COST IN U. S. DOLLARS          | SINCE FILE<br>ENTRY | TOTAL<br>SESSION |
|--|---------------------|------------------|
| FULL ESTIMATED COST                        | 1138.73             | 1311.49          |
| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE<br>ENTRY | TOTAL<br>SESSION |
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